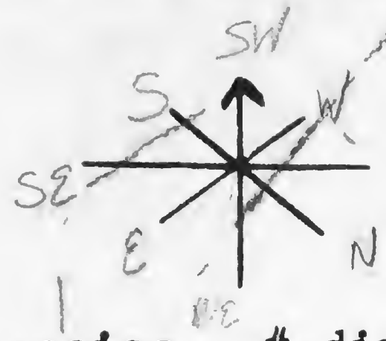


Bonin
B Petrel = BWP

DATE 1 Nov. 1963
Pg.# 1

time	species	#	dir.	hgt.	remarks Observation began 1050 at sea en route to Pearl Harbor	loc.
1109	Frigate bird	2	⊙	300yds	1 ♂ & 1 Juv.	
1111	" "	1	⊙	30'	1 ♀	
1146	wedge tail	1	↙			
1147	" "	1	↙			
1147	Vodgy Tern?	1	↑			
1153	wedge tail	1	↑			
1154	" "?	1	↑			
1158	Pomerine Jaeger	1	⊙		feeding	
1200	Wedge-tail	2	⊙			
1210	[redacted] Jaeger	1	↘	100ft		
1242	Wedgetail	1	↑		on port 100 yds	
1245	Pomerine Jaeger	1	⤵	50ft	on starboard 300 yds - appeared off stern 3 minutes later	
1246	Wedgetail	1	⊙		feeding off starboard 300-400 yds	
	Bonin Is	1				
1302	P. Jaeger	2		50-100ft	~~50-100ft~~ 400-500 yds off port	
1310	P. Jaeger	2	↙	50ft	passed astern on port 250 yds off	
R 1316	P Jaeger	2	⤳		same birds	
E P 1316	Wedgetail	1	→		off starboard	
E P 1324	Wedgetail	1	↘		300 yds	
E 1326	Shearwater SP	1	←		Manx? 400 yds off bow	
1331	P. Jaeger	1	↑	50ft	light phase off port	
1341	P Jaeger	3	→	50 ft	200 yds astern 3rd was probably Jaeger	
E 1351	Shearwater	1	←		500 yds	
E 1358	Shearwater	1	↘		1000 yds + off starboard	
1405	Bonin Is P.	1	↑		400 yds on starboard	
E P 1412	White Tern	1	↓	soft	200 yds off port	
E 1423	wedge-tail	1	↑		800 yds off star bow 15°	
1429	Bird	1			800 yds star bow 20° seen by Canadian	
E 1436	wedge tail	1	↑			
E 1440	Flock [redacted] wedge tail	5+			small school of whales pups with flock	
	[redacted] shearwater	5±			- 1 shearwater definitely not Wedge-tail feeding on water	

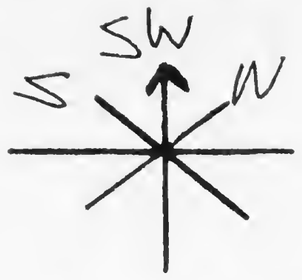
Boreq
B. Petrel = BWP

DATE 1 Nov. 1963
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
1446	Boreq Petrel	1			feeding by itself @ 200 yds off stbd 25-30°	
1545	Brown Booby	1	ENE	100'	dark, reg. wing beats, large —	
1555	Shearwater-Petrel	1	ENE	5'		
1600	Housefly	~~3~~	©	6.5 ft	could this be a sea-fly?	
1602	Wedgewater	1	~~NNE~~ ENE	10-15 ft.		
1607	"	1	ENE			
	G. Plover	2	NNE	35 ft	crossed over helio-deck. Port to Stbd.	
1614	Wedgetail	1	NNE			
	"	1	NNE			
1625	B. Petrel	1	WSW			
	" "	1	~~ENE~~ ENE	1-3 ft	3 foot wing ~~flaps~~	
		1	~~NNE~~ WSW	1-5 ft		
1630	B. Petrel	3	WSW ~~ENE~~		sitting on H_2O. Took off E.N.E.	
1635	Shearwater	3	WSW ~~ENE~~		Possible Sooty ?	
1639	Shearwater	1	WSW			
1645	Shearwater	1	SSW			
	Shearwater-Petrel	1	SSW			
1658	Sooty Shearwater	1	SSW		good glimpse of silver underwings 300 yds off bow	
1700	Sooty Shearwater	2	SSW			
1704	Petrel sp	1	W		400 yds off port	
1707	Shearwater	1	SW		500 yds off starboard	all probable Sooties
1710	Shearwater	4	SW		800 yds off starboard bow	
1712	Shearwater	1	SW		800 yds off starboard bow	
1718	Dark shearwater	2	SW		400 yds off Stbd. to Port bow	
1724	Booby	1	NW	150 ft.	white underbody & tail. 500 yds stbd.	
17226	Brown Booby	1	SW	150 ft.		
	B. Petrel	1	SW	10-15 ft	~~Sooty~~	
1744	Sooty Shearwater	4	SW	10-25 ft	400-500 yds, Stbd. to Port bow.	
1746	Sooty "	1	SW		STBD Bow	
	" "	1	SW		STBD. 300-400 yds	
1747	" "	~~4~~	SW		STBD. 300 yds across Port bow.	
1750	Shearwater	2	SW		across bow, Stbd. to port	
1751	S. Shearwater ??	~~3~~ 4	SW		800 yds, stbd. to port.	
1755	Flock ~~Feeding~~					
	Sooty Shearwater	300+	SW		10 groups crossing to Port bow	

DATE 1 Nov. '63
Pg.# 3

time	species	#	dir.	hgt.	remarks	loc.
1805	Tern Sp.	1	NW			
1814	Shearwaters SP	1	SW		800 yds off bow	
1817	Shearwaters SP	41	SSW		flight same as previous + local - light too dark to see silver lining but probably Sooty Shearwaters.	
1823	Shearwaters SP	2	SSW		ditto above remarks	
1850	observations concluded					

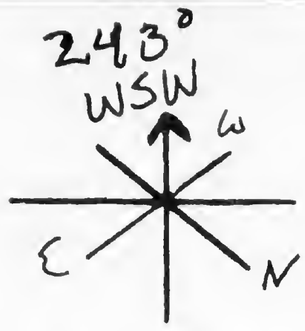


Bonin
B. Petrel = BOP

DATE 2 Nov 63
Pg.# 1

242

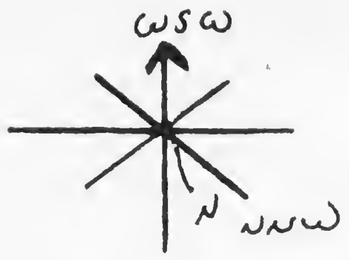
time	species	#	dir.	hgt.	remarks	loc.
0613	R.F. Booby	1	from N	70'	~~white breast~~, landed on top pole of bird bath. View from bridge showed white breast & dark underTail. Collected by Mr. Smiley at 0624 with .22.	
0631	Sooty Sneer?	1	SE→ NE	—	- 100 yds ~~to~~ Port, poor light.	
0654	Pterodroma	1	S	—	-	
0712	W.T. Tropic	1	SW	50 ft.	shot in Rt. Wing	
0722	Shearwater	1	S		800 yds off bow	
0728	Shearwater	1	S		typical shearwater flight	
0729	B. Petrel	1	SSW			
0734	Pterodroma	2	N		500 yds off Starboard	
0733	Pteradroma	2	N		1000-1500 yds.	
0735	"	1	N		1500 yds.	
0739	Bonin Is	1	SE		250 yds off bow	
0741	Wedgetail	2	N		400 yds off Starboard	
0743	"	1	SW			
	Bonin Petrel	1	SW		300 yds off Port bow	
0746	Bonin Is	1	N		200 yds off Starboard	
0748	Shearwater	1	N		200-400 yd Stbd. pink footed ?	
0751	Pteradroma	2	NW		800 yds Stbd	
0759	Shearwater	1	S-SW		Stbd. across to port. 100-200 yds	
0801	Wedgetail	2	SSW		200 yds Port	
0802	G. Plover	1	SSW		⟸ Port to stbd bow and back to port.	
0805	G. Plover	1	SW		Same as 0802 entry. Shot by Capt. Kepler	
0808	Pterodroma	1	N		300 yds off ~~Port~~ Starboard	
0809	Wedgetail	1	SW		400 yds off starboard	
0812	Shearwater/ Petrel	1	NE		700 yds off during shipboard recovery	
0816	Shearwater	1	SE		Port to Stbd. 800 yds.	
0818	Shearwater	1	SE		Port to Stbd. 800 yds.	
0822	Wedgetail	1	NE		400 yds off port	
0832	Wedgetail	1	NW	—	—	
0838	Wedgetail	2	SE	—	—	



Bonin
B. Petrel = BulP

DATE Nov. 2.
Pg.# 2

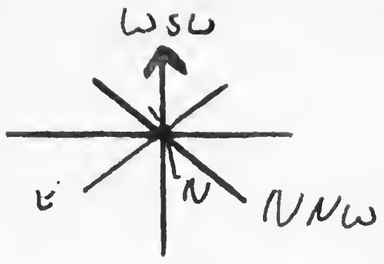
time	species	#	dir.	hgt.	remarks	loc.
0844	Bonin Pet.	1	NE	~	—	
0846	Wedgetail	3	S	—	— loosely grouped	
0853	shearwaters - Petrel?	2	ENE	—	— in sun path	
0858	Pterodroma	1	NE			
0903	Sooty Shear.	↓	S		good look	
0903	Bonin P	1	N		250 yds off Starboard	
0905	Bonin P	1	W		350 yds off port	
0909	Flock dark Shearwaters	20	S		500 yds off bow starboard to port	
0909	Pterodroma	1	N		crossed above flock	
0910	Shearwaters dark	3	E		400 yds off port	
0910	Bonin P	1	N		200 yds off Starboard	
0913	Bonin P	1	N		400 yds off Starboard	
0914	Wedgetail	1	N		500 yds off Starboard	
0915	~~Pterodroma~~ Bonin P	1	N		800 yds off starboard	
0919	Pterodroma	1	↪		to North 1000 yds off Starboard	
0922	Bonin Is	1	N		400 yds to Starboard	
0924	Harcourts Storm Petrel	1	N		Good look 200 yds on starboard	
0925	Bonin P.	1	WSW		500 yds off starboard	
0927	Bonin P ?	1	E		300 yds off port	
0935	Tern SP	1	ENE			
	Pterodroma SP	1	ENE		400 yds off port	
0935	Bonin Petrel	1	ENE		600 yds off starboard	
0936	Bonin Petrel	1	N		400 yds off starboard	
0939	Bonin Petrel	1	N		600 yds off starboard	
0941	Bonin Petrel	1	NE		600 yds off Port	
0943	Bonin Petrel	1	N		100 yds starboard	



Bonin
B Petrel = BBP

DATE 2 November 1963
Pg.# 3

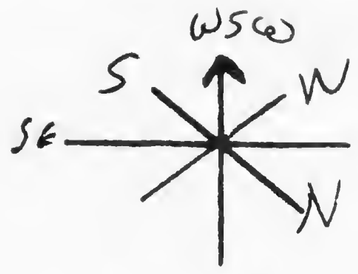
time	species	#	dir.	hgt.	remarks	loc.
0945	Bonin Petrel	1	NNW		~~across bow to port~~ Starboard 500 yds	
0945	Sooty Shearwater	1	S		across bow to port 800 yds	
0947	Red-billed tropic	1	E		on itself for a while bow	
0949	Terns	3	ENE	200'	600 yds port	
0950	Bonin Petrel	1	NNW		300 yds starboard	
1001	Dark rump P	1	NNW		400 yds off starboard	
1002	Bonin P	1	NNW		600 yds off starboard	
1006	Pterodroma	1	NNW		1000 yds off starboard	
1006	Harcourts Storm Petrel	1	NNW		500 yds off starboard	
1008	Bonin Is P.	1	NNW		400 yds off starboard	
1013	Flock Sooty Shear.?	125+	S		Passed 800 yds astern	
1014	Bonin Is P.	1	NE		400 to port	
1015	Bonin Is P	1	NNW		500 to starboard	
1017	Bonin	1	NNW		500 to starboard	
1017	Bonin	1	WSW		600 to starboard	
1017	Pterodroma	1	NNW		1000 to starboard bow	
1026	Bonin P.	1	NNW		400 yds to starboard	
1027	Bonin P	1	WNW		300 yds to port	
1028	Tropicbird sp	1	?		750 yds off starboard bow	
1030	Bonin P	2	WNW		300 to port	
1031	Flock Sooty Shearwater?	80+	S		750 yds off bow	
1037	Bonin Is P	1	WNW		400 yds to port	
1050	Bonin Petrel	1	NNW		200 yds to Starboard	
1100	Flock Sooty Shear.?	40+	S		1000 yds + to stern	
1105	Wedgetail	1	NNW		400 yds to Starboard	
1105	Wedgetail	1	WNW		500 yds to port	
1108	Sooty Shear?	4	S		850 yds off bow	
1109	Wedgetail	2	NNW		150 yds off Starboard	
1111	Sooty Shear	17	S			
1112	" "	12	S			
1118	Sooty Shear?	100+	S		mile behind ship	
1135	Bonin Is P	1	WNW		400 yds off port	



Bonin
B. Petrel = BoP

DATE 2 Nov 63
Pg.# 4

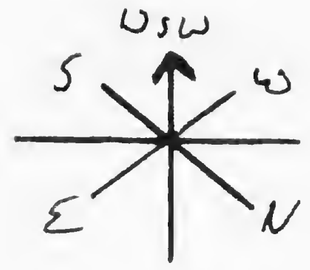
time	species	#	dir.	hgt.	remarks	loc.
1139	Bonin Is P	2	WNW		200 yds from port	
1140	Bonin Is P	1	NNW		300 yds to starboard	
1148	Flock Sooty Shearwaters?	150+	S		1000 yds off bow	
1149	Bonin Is P.	1	NNW		750 yds off starboard bow	
1154	Wedge tail	1	NNW		400 yds to starboard	
1154	Storm Petrel	2	NW		750 yds to starboard bow	
1204	Flock Sooty Shears?	70+	S		750 yards to stern	
1209	Dark shearwater	1	SSW		600 yds off bow	
1215	Dark tern	1	SSW	low	1000 yds. dark bird - Noddy?	
1225	H. storm petrel	1	NNW	low	300 yds off bow.	
1236	Sooty shearwater	7	SW		800-1000 yds stbd. across bow to port.	
1248	B. Petrel	1	NW			
1248	" "	1	NW		singles close (100 yds together)	
1249	" "	1	NW			
1250	flock Sooty Shearwater	350+	SSW		800-1000 yds stbd across bow.	
1254	B. Petrel	1	SSW		200 yd stbd. across bow.	
1305	Shearwaters dark	12	SSW		1000 yds. stbd. to port.	
1347	Storm Petrel	1	NNW		800 yds ± seemed darker below than Bonin Is.	
1405	Dark Tern	1	NW		Together, 800 yds off stbd.	
1405	B. Petrel	2	NW			
1405	Flock of Shearwaters	150+	SSW		2000 yds stbd. across bow	
1415	Booby	1	SSW		Brownish colored. 100 yds.	
1421	Pterodroma	1	NNW		1000 yds stbd.	
1421	Petrel Sp.	1	NNW			
1426	Bonin Petrel	1	NW		500-600 yds. stbd.	
1428	Storm Petrel	1	NW		1000-1200 yds. appeared brown above, white on neck & head also dark underwing. white belly.	
1438	wedge-tail	1	SW		200 yds off starboard.	
1447	Bonin Petrel	1	NNW		600 yds off starboard	
	petrel?	1	SSW		600 yds off starboard	
1448	Bonin Petrel	1	WSW		200 yds off port. possibly same bird?	
1500	Bonin Petrel	1	WSW			



Bonin
B. Petrel = BwP

DATE 2 November 1963
Pg.# 5

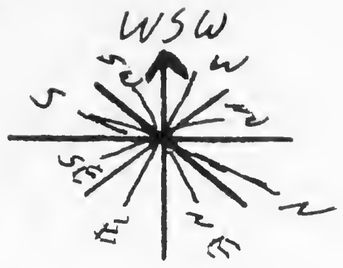
time	species	#	dir.	hgt.	remarks	loc.
1510	Sooty Shearwater	8	S	rose.	very loose (spread out) flock	
1511	Bonin Petrel	1	?		appeared to chase flying fish.	
1525	Bonin Petrel	1	E			
1528	Shearwater	3	S		ca 1 mile stbd. bow	
1532	Bonin Pet.	1	N	—		
1543	Bonin	1	W		stabord 200 yds	
1543	White necked Petrel	1	E		200 yds bow	
1550	Shearwater Sooty?	250 ±	S		in about 5 groups mixed fog stragglers.	
1559	Bonins.	1	N	—	—	
1604	Flock					
	Dark-rump Petrel	1			not actively feeding	
	Bonin Petrel	1			but milling around as if	
	shearwater	2			over a deep fish school	
	Shear-Pet	2				
1612	Sooty Shearwater	4	SE	—	—	
1619	Frigate	1	W	200' +	close to water level. Imm.	
1653	Bonin Petrel	1	W			
1700	Shearwater Sooty?	50 ±	S			
1703	Flock	30±			feeding.	
	Shearwater				not Sooty?	
1705	shearwater	4	WSW			
1710	Sooty Shearwater	1	S			
1713	Bonin Petrel	1	W			
1724	wedge tail	1	NW			
1732	white-necked Petrel	1	NW			
1739	Flock Sooty Shearwaters	50+	S		750 yds off bow	
1740	Storm Petrel sp	1	E		400 yds off Port	



Bonin
B. Petrel = BWP

DATE 2 Nov
Pg.# 6

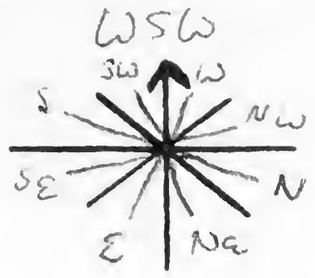
	time	species	#	dir.	hgt.	remarks	loc.
	1742	Bonin Is	3	E		400 yds off port	
	1746	Red Foot Booby	1	N		300 yds off starboard	
	1748	Sooty Shear	6	S		600 yds off bow	
	1749	Sooty Shear	1	S		500 yds off bow	
	1756	Bonin Is P	1	SE		300 yds off bow	
	1756	Bonin Is P	1	N		600 ~~ft~~ yds off starboard	
Time change 1700	1800	Sooty Shear	1	S		600 yds off bow	
	1800	Bonin Is P.	1	N		600 yds off starboard bow	
	1803	Bonin Is P	1	E		500 yds off starboard	
	1804	Horsecourts Storm Petrel	1	N		400 yds off starboard	
1800	1900	Observations concluded.					



Bonin
B. Petrel = BWP

DATE 3 November 1963
Pg.# 1

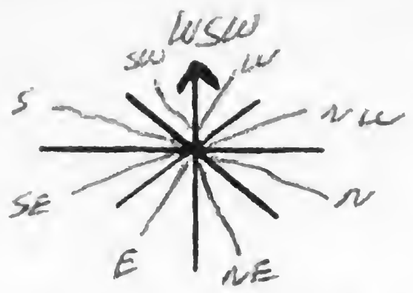
time	species	#	dir.	hgt.	remarks observation began 0530	loc.
0525	Tern	1			heard calling before it got light enough to see	
0604	Sooty Shearwater	4	SSW		migrating	
0615	Small shearwater	1	E		little larger than Baileys, white underwing	
0617	Sooty Shearwater	1	SSE			
0632	Pink footed shearwater?	1	NW			
0730	Bonin Petrel	1	NE		300 yds starboard	
0748	Bonin Petrel	1	N		300 yds starboard	
0755	Wedge-tail	2	ENE		Port	
0755	white-neck Petrel	1	ENE		starboard	
0802	Pterodroma	1	S		Stern bow 1000 yds.	
0809	Bonin Petrel	1	E		200 yds off Port	
0811	Bonin Petrel	1	SW		400 yds to port	
0813	Bonin Petrel	1	SW		400 yds to port	
0814	Bonin Petrel	1	SW		400 yds to port	
0815	Pterodroma SP	1	NE		800 yds to starboard	
0817	Bonin Petrel	1	SW		800 yds off port	
0817	Wedgetail	1	NE		600 yds off starboard	
0818	Bonin I SP.	1	NE		1000 yds off starboard	
0818	Pterodroma SP	1	NE		1500 yds off starboard	
0820	Bonin Petrel	1	SW		150 yds off bow	
0822	Bonin P.	1	NE		400 yds off starboard	
0825	Bonin P	1	NE		600 yds off starboard	
0825	Sooty Shear.	25+	↑S		alongside ship on starboard 1000 yds out then swung across bow	
0829	Bonin	3.			200 yds from port	
0829	Bonin	1.	N		600 yds off starboard bow	
0833	Pterodroma SP	1	S		1200 yds off bow	
0835	Pterodroma SP	1	WSW		800 yds off port	
0838	White neck P.	1	NE		200 yds off starboard - real good look	
0838	Wedgetail	1	NE		150 yds off starboard	
0845	Harcourts Storm Petrel	1			Shot by Capt Kepler - dabbling on water Not recovered	
0845	Pterodroma	1	NE		1600 to starboard	



Boxing
B. Petrel - BWP

DATE 3 Nov 63
Pg.# 2

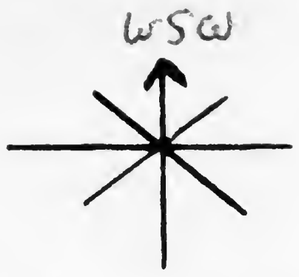
time	species	#	dir.	hgt.	remarks	loc.
0905	Brown Noddy	1	~~25ft~~ SE	25ft	well seen from 100 yds during circling to find Storm petrel	
0905	Bonin Is Petrel	1	NE		400 yds off port while circling	
0916	Brown Noddy	1	E	25 ft	100 yds from ship - perhaps same as 0905	
0938	Bonin Is P.	1	NE		500 yds on Starboard	
0940	Bonin Is P	1	W		400 yds to starboard	
0946	Sharwater/ Pterodroma	1	NE		1500 yds off starboard	
0948	Bonin P	1	NW		250 yds off starboard	
0951	Bonin P	3	E		200 yds off bow	
0956	Bonin P	1	SW		250 yds off port	
0956	Bonin P	1	NE		300 yds off Starboard	
0959	Pterodroma sp	1	NE		1000 yds off starboard	
1000	Pterodroma Sp	1	NE		600 yds off starboard	
1002	Pterodroma Sp	1	NE		1200 yds starboard	
1003	Wedgetail	1	NE		500 yds off Starboard	
1012	Bonin Is P	1	NE		400 yds off starboard	
1019	Pterodroma sp	1	NE		800 yds off starboard	
1021	Pterodroma sp	1	NE		800 yds to Starboard	
1026	Bonin Is P.	1	NE		500 yds to Starboard	
1029	Red Tail Tropicbird	1	SW		setting in water close to ship - flew around streams of feed	
1034	RT Tropicbird	shot by Mr. Rolly Smith			picked up about 1100.	
1036	Sooty Shearwater	4	S		sitting in water - flushed very close to ship + flew to S.	
1111	wedgetail	1	S		300 yds off port.	
1117	~~Bonin Is P.~~ Petrel sp	1	SW		100 yds	
1117	small dark bird	1	SE		800 yds off port.	
~~1128~~						
1128	Bonin's Petrel	5	SW		500 yds. stbd to port.	
1136	wedgetail	1	SW		200 yds off starboard	
1136	Bonin Is P. white rumped P	4 1	N N		close non-feeding flock	
1139	Bonin Is P.	1	SW		200 yds off port bow.	
1145	Bonin Is P.	1	SW		100 yds off bow - prys off H2O.	
1200	Shear - Pet small, believes sp —	1	SW		100 yds in scum	
1201	Pterodroma Petrel	1	SW		100 yds stbd to port.	



Bonin
B. Petrel = BwP

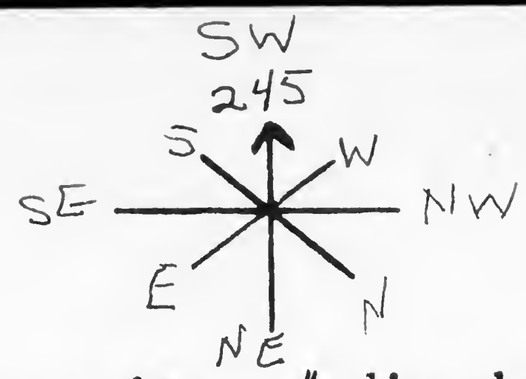
DATE 3 Nov 1963
Pg.# 3

time	species	#	dir.	hgt.	remarks	loc.
1221	R.T. Tropic	1	NE	5-10 ft.	sitting on H2O at first sighting. 1000-1500 yds.	
1223	Pterodroma	1	NE			
1227	Sterna	1	N		1000 yds. off port	
1228	Sterna	1	N		800 yds off starbrd.	
1244	Bonin Petrel	1	SW		500 yds off stbd.	
1244	" "	3	NE		500 yds off stbd.	
1312	Pterodroma	1	←SW		1000 yds port quarter to port bow.	
1314	Sooty Tern?	1	SW		1000 yds. to port.	
1349	Bonin Is	1	NE		1000 yds to Starboard	
1400	Bonin Is	1	NE		1000 yds to Starboard	
1400	Bonin Is	1	S		100 yds off bow	
1411	Bonin Is	2	W		200 yds off starboard.	
1425	Bonin Is	5	@		playing follow-the-leader + circling 300 yds to port	
1437	Bonin Is	4	S		200 yds from ship off port	
1444	Bonin Is	7	@		circling all around ship 1 shot by Fleet	
1454	R.T. Tropicbird	1	@		Shot by Capt. Kepler	
1510	returned on course					
1527	Bonin Is	2	—		200 yds off starbrd - across port.	
1535	white necked Petrel	1	NW E			
1538	med. sized bird	1	E		slow even wing beats. medium-sized - gross. large tern but bill held more parallel (like gull). didn't seem large enough for jaeger. appeared dark above, light below; gross. white (on light) on tail.	
1547	Bonin Is B	2	S		flew 150 yds across bow. port. 1 on water.	
1606	Bonin Is. B.	1	SE		200 yds off port.	
1611	Bonin Is Petrel	1	N		200 yds off starboard bow.	
1612	Sterna sp	2	NE		FOG - 1000 yds off port stern.	
1625	Bonin Is. Petrel	2	SE		300 yds off port.	
1626	bird	1	N		— 1 mile	
1635	FLOCK					
	Sooty Tern	8				
	White Necked Petrel	2			Feeding	
	Bonin Is.	3				
	Dark Rumped	1				
	Wedge Tail	1				
	Red-tail tropicbird	1			sitting on H2O not feeding	



DATE 3 November 1963
Pg.# 4

time	species	#	dir.	hgt.	remarks	loc.
1705					resumed cruise	
1725	B. Petrel Bonin	1	NNE	10-15	200-300 yds stbd	
1820					observation ended	



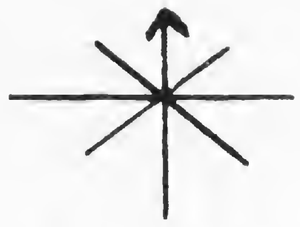
Bonin
B. Petrel = BWP

Obs. begun 0540

DATE Nov. 04
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
0553	White Necked Petrel	1	N		appeared 100 yds from ship - may have been sitting	
0620	wedge tail	1	SE	—	prob. sitting on water off bow.	
0630	Bonin Is P	1	E		250 yds off port	
0640	Pterodroma	1	NE	—	—	
0640	Pterodroma	1	NE	—	—	
0712	white necked Petrel	1	NW	—	—	
0725	White-tailed Tropicbird	1	E		Shot by King	
0732	Pterodroma SP	1	E		1000 yds off starboard	
0740	Storm-Petrel SP	1	E		dabbling in water close to body of tropicbird.	
0754	Pterodroma SP	1	N		1000 yds to starboard	
0801	Pterodroma SP	1	N		800 yds to starboard - larger than Bonin Is.	
0823	Pterodroma	1	SW			
0829	Bonin B. B.	1	NW	—	—	
0829	" "	1	NW		200 yds off stbd. bow	
0841	" "	1	WNW		800 yds off starboard	
0901	" "	1	WNW		sitting on H_2O.	
0903	" "	1	SW		500 yds. stbd.	
0927	" "	1	SW		200 yds stbd port on water	
1031	Pterodroma	1	SE		500 ~~yds~~ ~~stbd~~.	
1038	petrel	1	NE		1000 yds off ~~port~~ bow.	
1130	Bonin Petrel	1			very brief, unsatisfactory look - 200 yds off port.	
1214	Golden Plover	1	↘	100'	sitting on water	
1218	Common Noddy Tern	1	N	10'	collected by Bob Fleet	
1220					made several passes at surface of water	
1300					resume course	
1305					plankton samples	
1306	Black-footed Albatross Bird	1	SSE	20'	mottled brown appearance - lots of flapping by birds	
1330					resume course	
1407	Bonin B. B.	1	E		100 yds off port bow	
1410	gadwall duck	1	SE		in to within 150 yds. - white in wing - mallard shape	
1423	gadwall	1	WSW		apparently ♀ gadwall or ♂ in eclipse straight line flight then circle - 200 yds off ship	
1425	"black footed albatross"	1	NW		low (under 50') over H_2O flapped like large dark shearwater	
1440	dark bird	1	NE		1000 yds off port	
1528	Feeding Flock	4+	E		1 mile behind ship to port	

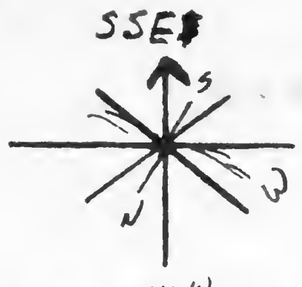
many of these bird circumnavigating ship on H_2O



Bonin
B. Petrel = BWP

DATE 4 November 1963
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
	Frigatebird	1				
	Shearwater/ Pterodroma	3+				
1624	Flock				actively feeding	
	Sooty Terns	25+				
	Bonin Petrel	30+			many flying fish.	
	Wedge-tail	6+				
	Frigatebird	3			collected 6 Bonin Petrel from	
	Mary's Shearwater	1			Motor Whale boat	
	Booby	3				
	Laysan Albatross	1				
	Shearwater (all grey)	1				
	Tropic bird	1				
1640	Golden Plover	1			shot but not recovered	
1700	Pterodroma	1	S			
1704	Golden Plover	3	E			
1725					resume course	
1733	~~Pterodroma~~					
	Bonin Petrel	1	SE			
1940					observation ended	



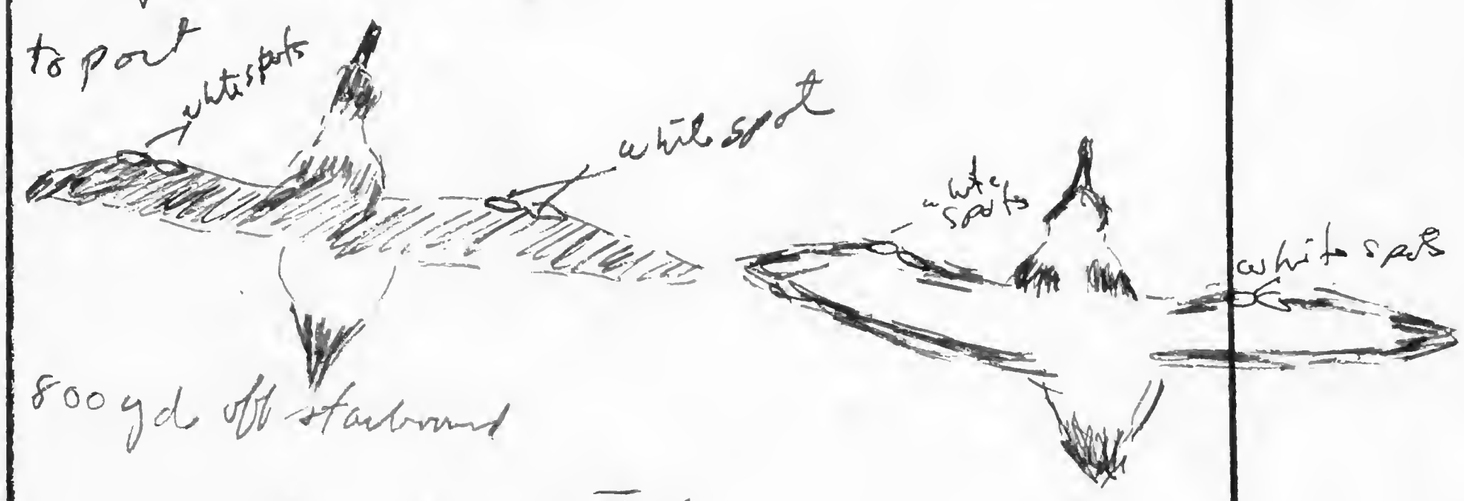
Bonin
B. Petrel = BWP

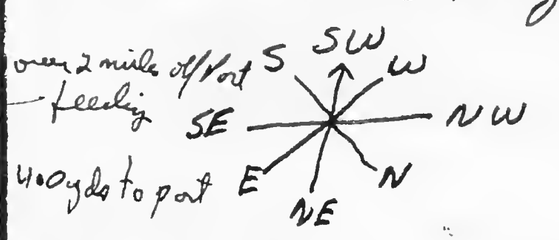
started watch 0500
To dark to see anything

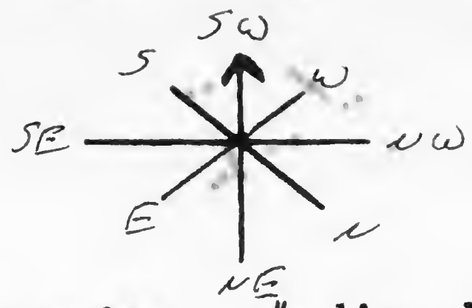
DATE 25 Nov 1963
Pg.# 1

Cools, wind NE, partly cloudy

time	species	#	dir.	hgt.	remarks	loc.
0617	frigate	1	ONE	200'	high over bow.	
0638	wheatear n petrel.	1	W		100 yds off stbd bow.	
0652	Storkbill	1	NW		1000 yds off stbd bow.	
0705	ALBATROSS	1	E		circled ship at 35'-50', white neck, white area on alula. Black head & bill. dark above & on wing	
0705	Bonin I. Petrel	1	SE		200 yds Port side	
0728	" "	1	SE		500 yds Port to Stbd.	
0742	white-n. petrel	1	SSW		1st in to 100 yds ship then off-	
0754	Bonin Petrel	1	W		300 yds starboard	
0837	Pterodroma	1	W		450 yds starboard astern	
0838	Bonin Is P	1	~~W~~ SE		to port	
1007	Albatross	1	S			
1007	Pterodroma	1	NW			
1022	Pterodroma sp	1	S		800 yds off starboard	
1206	Tropic bird	1	SW			
					— seen by watch	
1230	Changed course to S.W. First leg of grid.					
1410	Flock of Birds	200+			over 2 miles off port feeding	
1430	Pterodroma sp	1	W		400 yds to port	
1436	Red foot Booby	1	E		5 last leg Grid	
1452	Brown Booby	1	E		shot at ~~[illegible]~~ by Capt Kepler -	
1631	Bonin Petrel	1	WNW		sat in 1420 & chased but he got away	
1550					resume course	
1600	Manx Shear.	1	E		flew away from ship - first seen at 200 yds to port dark above & all white below white patches visible on dorsal wing surfaces at elbow	
1607	Dark rumped P.	1	N		good view	
1610	Flock				actively feeding	
	Sooty tern	72				
	White neck Petrel	3+				
	Dark rump Petrel	1				
	Kermadec Petrel	1				
	manx shearwater	1			— seen bird as at 1600	
	Bonin Petrel	3+				
	Shearwater	1			— all grey & large	
	Pterodroma	20+				

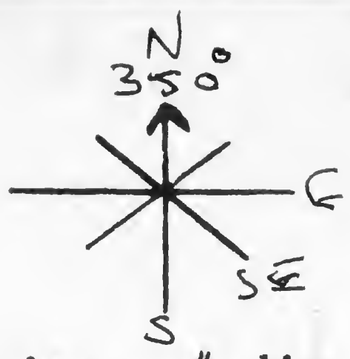


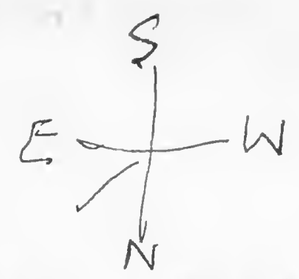




DATE 5 November
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
1645	Shear-Petrel	1			ea 1 mile	
1716	petrel ?	1	SW		1500 yds. off port side	
1726	white n. petrel	1	SW		300 yds off port side	
1739	white n. petrel	1	SE		100 yds across bow to port	
1745	white n. petrel	1	S		1 sitting on water, 2nd came in & alighted.	
	Pterodroma sp	1			shot as they came 80-100 yds off starboard - missed	
1751	darkrump P.	1	SE		100 yds across bow to port.	
1758					emergency run to Johnston Is.	



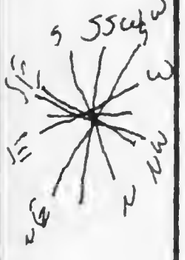


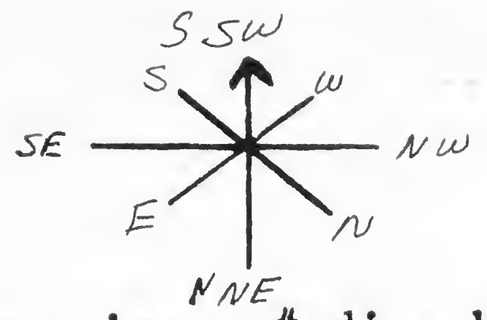
Bonin
B. Petrel = BWP

DATE 6 Nov. 1963
Pg.# 1

0513

time	species	#	dir.	hgt.	remarks	loc.
0507	Tern					
0627	Sooty Shearwater	1	S	10-20 ft.	500 yds Port to stern.	
0630	" "	8	S	"	500 yds Port to stern.	
0632	" "	2	W	"	150 yds Port across bow to stbd.	
0636	Bonin I. Petrel	1	S	—	sitting on H_2O. Took off south & turned north.	
0638	Sooty Shearwater	3	W		300 yds. stbd.	
0640	" "	18	S		Port bow to stern.	
0645	Pteradroma	1	N		~~total of separate sightings. one bird on H_2O.~~	
0645	"	1	S→N		nH₂O	
0645	"	1	N			
0645	"	1	S			
0654	"	1	SW			
0654	White-necked Petrel	1	N			
0654	Sooty Shearwater	4	S			
0718	Pteradroma	1	S		400-500 yds port side.	
0722	"	3	S		800 yds port.	
0734	"	1	S		600-800 yds port.	
0830	Pteradroma	1	SE	—	—	
0856	Bonin Pet.	1	W		800 yds off bow to ~~stbd~~ Port	
0859	Pteradroma	1	SW		400 yds off port	
1005	— completed transfer of				ill seaman.	
1052	Dark-rumped Petrel	1	NE	—	—	
1052	Booby sp.	1	NE	—	—	
1127	Red-footed Booby	1	NNE	10'	adult a lobe of dark on top of wings	
1207	Albatross	1	S	10'	same bird as previous day - all dark dorsally except white neck two toe underwing pattern + dark collar same distance outer above Boobys but looked twice as big.	
1238	Manx Shearwater	1	SE		flew away from ship - first seen 300 yds to starboard later 800 yds to starboard	
1242	Shearwater/ Petrel	1	SE			
1410	Booby sp.	1	W	100' to 10'	white wing black tip	
1413	Bonin Petrel	1	E		150 yds port.	
1415	" "	1	SE		500 yds port beam.	
1434	Booby sp.	1	SW	50'	black under tail, white above - black mask around eyes. Prob. same as above	





Bonin
B Petrel = BWP

DATE 6 November 1963
Pg.# 2

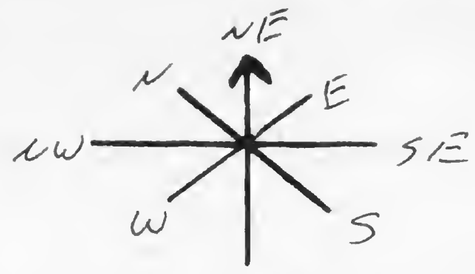
time	species	#	dir.	hgt.	remarks	loc.
1453	W.N. Petrel	1	WSW	5'-20'	across bow to stbd. (✓ like so.)	
1500	~~Bonin I. Petrel~~ PTERADROMA	1	ENE	—	600-800 yds to Port Beam.	
1506	Booby, MASKED	2			2-3,000 south of Port bow. 1 collected	
	FRIGATE	1				
	~~Bonin Petrel~~	~~10~~				
	W.N. Petrel	1				
	Bonin do Petrel	10			1 masked Booby collected	
	Pteradroma	3				
	Brown Noddy	1				
1615	Golden Plover	1	⊘	15-20'		
1630	Pteradroma	1	ESE	10'-20'	~~to~~ away from port beam. 1000-1500 yd.	
1635	"	1	ENE		500 yds. Port quarter (stern).	
1656	W.N. Petrel ?	1	ESE		300 yds. Port.	
1716	Pteradroma sp	1	SW		300-400 yds. port.	
1731	large Pteradroma	1	SW		1000 yds port.	
1741	Pteradroma	1	SW		1000 yds port.	
1749	Pteradroma (small)	1	NW		600 ± yds to starboard	
1804	shearwater or petrel	1	NW		200 yds across bow to starboard. appeared long-winged - too dark to be sure.	
1815	tropic bird	1	SE	100'	overbow from starboard - too dark for sp. but appeared large & prob. red-tailed.	
2059	Tern	2	NNE		sound like Sooty	
2131	Tern	1	NNE		" " "	
2210	bird	1			thin squeaky chirps 6 or 7 times	
0010	bird	1				
0015	bird	1	SSW		3 squeals like the noise made by squeezing a rubber doll	
0028	Shearwater/ Petrel	1	SSW		50 yds to port seen by light of moon - flew low over water - looked like shearwater / petrel type	
0032	Shearwater/ petrel	1	SSW		50 yds to port seen in moon's light	
0040	Shearwater/ Petrel	1	SSW		100 yds off port in moonlight	
0042	Shear/petrel	1	SSW		100 yds off port in moonlight	
0046	Shear/Petrel	1	SSW		100 yds off port in moonlight	
0051	bird	1			1 dolphin-like squeal	
0102	Shear/petrel	1	SSW		100 yds off port	

Bonin
B. Petrel = BwP

DATE 7 Nov 63
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
0105	Shear/petrel	1	↩		100yds to port	
0108	Pterodroma	1	SSW		50yds to port	
0134	bird	1			rubber doll - like squeak	
0210	Tern	1	–	–	over ship - called twice	
0234	Shearwater Petrel	1	–	–	–	
0325	Tern	1	–	–	–	
0405	Change to 045 NE					
0405	Tern over main deck forward 75' again about 3 min. later					

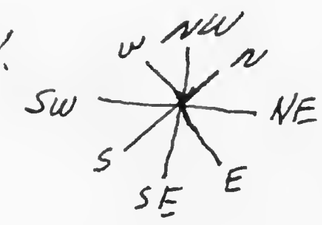
0600	light enough for good visual observation – wind 090 at 15K. (?)					
0606	tropic bird	1	NE	100'	200yds off starboard.	
0608	Pterodroma	1	SW		800yds off port	
0610	Pterodroma	1	SW		300yds off starboard + near stern	
0615	Sooty? Shearwater	1	SE		small, dark, low, rapid flight - 100yds across bow to stern	
0615	White n. Petrel	1	SE		150 yds off bow to starboard	
0630 t.o. stop for plankton 0633	petrel/shearwater	1	NW		600 yds off starboard - appeared very long-winged light bird.	
0640	sml t.t. bird	1	SE	150'	along starboard – Capt. shot (unsure.)	
0651	Pterodroma	1	SSW		800yds to starboard (probably Bonin Is.)	
0654	Pterodroma	1	SW		700yds to port (probably not Bonin Is)	
0658	petrel/shearwater	1	W		600yds off stern - seen by Mr. Smiley	
0725	Booby sp?	1	WSW		1000 yds to starboard	
0729	Pterodroma sp	1	N		1500 yds to port	
0730	resumed Course					
0748	white n. petrel	1	SW		200yds off port - flew 50 yds off stern	
0756	Sooty Shearwater	3	S		300 yds off bow	

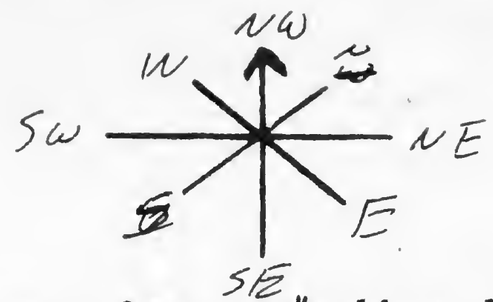


Bonin - BWP

DATE 7 November 1965
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
0800	Flock				actively feeding - flying fish in large #'s	
	Sooty Tern	5+			at least 1 mm.	
	White-necked Petrel	10+				
	Bonin Petrel	5+				
	Kermadec Petrel	2			dark phase	
	Wedge-tail	1			dark phase	
0813					resume course	
0836	Red-tail Tropicbird	1	NE		apparently just getting off water - landed again on water & shot at 0841 right next to ship on H_2O guard 300 yds -	
"	" " "	1	"	flying from the ship.		
0836	Bonin Petrel	1	W			
0940	Tern	1	SW		either Brown Sooty or Hawaiian Wedge probably the former	
0945	Pterodroma	1	N			
0947	Bonin do	1	W	-	-	
0910	~~bird~~ bird	1	NE	-	took off water off bow.	
1007	Shear-Pet.	1	SW		200 yds starboard	
1018	bird	1	SW	-	-	
1020	Pterodroma sp.	1	SW		800 yds. Port.	
1308	Frigate	1	W		300' high, sailing aloft.	
1400					change course to N.W.	
1406	Pterodroma	1	W			
1433	Red-tail tropic bird	1	NW	80'	Shot by Capt. Kepler	
1457	resume course					
1519	Sheam-Pet	1	N		white belly but appeared to have all dark under wings too far out to be sure same bird as above	Possible Phoenix Petrel
1526	" "	1	N			
1549	large Pterodroma	1	W		1000 yds to starboard	
1556	Sooty Shear.	1	SW		300 yds from starboard	
1617	Dark rumped P.?	1	SW		600 yds to starboard - no white neck seen	
1622	Bird	1			seen by watch on port	

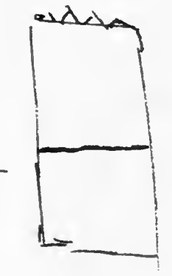


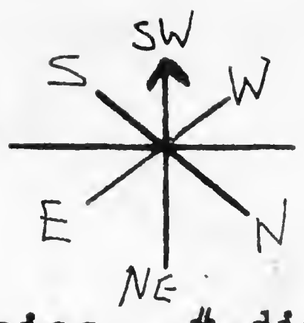


Bonin - BWP

DATE 7 November 1963
Pg.# 3

time	species	#	dir.	hgt.	remarks	loc.
1708	W.T. Tropic	1	NEE	150'	} flying together.	
1708	R.T.	1	NEE	150,	} R.T. circled the helio deck.	
1734	Petrel	1	W	5-20'	1000yds stbd to Port. flapping feets.	
1734	Tern	5	?	75' to W.T.	seen within 1000yds.	
1819	Shearwater-Petrel	1	?	—		
1821	"	1	NW	—	may have been same one	
					1900 — change course to 222° SW	
1151						
~~1159~~ 1159	Tropicbird	1			over head calling	
1211	Terns	2			overhead calling.	

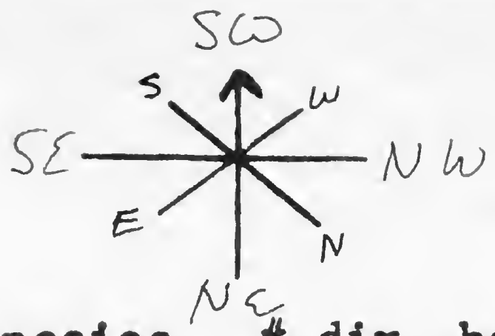




Bonin = B.w.P

DATE 8 Nov. 1963
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
	0642 small gull?	1	~~W~~ W	10'	Couldn't see color. slow wing beats - shape of gull. Mostly dark above, agg. lighter below. didn't have properties of a tern - ie (shorter wings; slower, shallow wing beat, larger head with bill more horizontal) Coz. almost entirely white under wing. did not see white neck - 800 yds off stbd - possibly above bird.	600 yds to stbd.
stopped for plankton 0630-						
	0705 Pterodroma	1	W then E			
	0709 Pterodroma	1	W			
	0715 Pterodroma	1	N	-	—	
	0722 Pterodroma	1	N	-	"	
	0722 white necked Petrel	1	S	-	"	
	0724 Bird	1	S	5-20'	Light brown on back, white underside, some gliding, heavy flapping of wings,	
	0751 White n. petrel?	1	NW	30' to 70'	1000 yds off bow.	
	0759 Dark Hawk	1			collected by Lt. Kepler same bird as at 0724?	
	0813 Red-tail tropic bird	1			on water flew ~~SW~~ SW	
	0837 Pterodroma	1	S		1000 yds stbd. } last straight line courses	
	0841 "	1	SW		" " " } seem to be going some place	
	0850 Red-tail tropic bird	1	◎		150'	
	0853 ~~Pterodroma~~ ~~+ 5 others~~ Flock					
	Sooty Tern	5			~~Acto~~ passively feeding - 7/jap fish schools	
	wedge tail	2+			1 brown.	
	Bonin Petrel	5+			dark phase	
	white-necked Petrel	3+			This flock predicted by behavior of preceding 2 Pterodroma vfg	
	Pterodroma	5+				
0912	Pink footed Shearwater?	1			Very white below, brown above, almost whole underwing white. rescue contrail	
0933	Pterodroma	1	N			
0944	Bonin Petrel	1	NW			
1012	Pterodroma	1	NNW		1000 yds port to stbd.	
1021	Bird	2			45° stbd. seen by watch. (DRESIVER)	
1155	Bird	1	W		45° starboard seen by watch	
1318	Mank Shearwater?	1	NW		sitting on water - moved out fast to starboard not seen until 1000 yds away	



Bonin - BWP

DATE 8 Nov 63
Pg.# 2

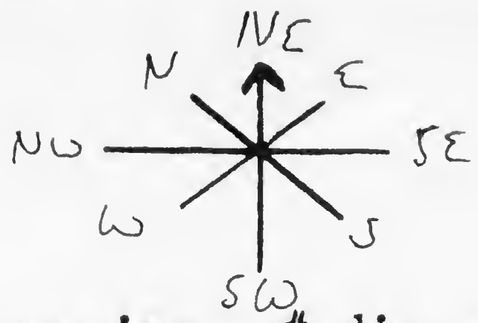
time	species	#	dir.	hgt.	remarks	loc.
1440	R.T. Tropic	1	S	0-100'	took off from H_2O about 100 yds. To port beam.	
1444	Bonin I. Petrel	3	N.E. E.	5-20'	close inboard 100-150 yds.	
~~1447~~					→ ~~changed course to~~ ERROR	
1452	Tropic Bird	1	W	—	seen by Port lookout watch. Poss. 1440 entry.	
1505	white n. petrel?	1	NE		1000 yds off starboard stern - very large, white	
1505	w.t.t. bird	1	SE		150' - off port.	
1506	Sooty Terns	40	◎		first soaring) flock increased in size. not feeding - splitting into	
	Shearwater	1			then some erratic, rapid flight - apparently hunting) smaller groups	
1517	Dark Rump Petrel	1	S		} slow glide & wing ~~twist~~ flaps.	+ dissipated.
1517	Brown Shearwater?	1	S			
1528	Pterodroma ↓	1	SE			
1530	Pterodroma	1	NE		large, very white underwing, 1000 yds ±	
1546	Bonin Petrel	1	NW			
1547	dark-rumped P.	1	NE		300 yds off port.	
~~1600~~					— change course to NW	
1703	red t.t. bird	1	NE			
1717	Shear/Petrel	1	E		in sun 400 yds port	
1725	Bonin Petrel	1	E↗W			
1727	white-nek Petrel	1	NE			
1747	Pterodroma	1	NE			
1905	Tern	1				
1909	Tropicbird	1			coming overhead	
1914	Tropic bird	1	NW	40'	" out to port	
					seen - head overhead (Red-tail?) (seen as above?)	

Bonin = BWP

DATE 9 Nov 1963
Pg.# 1

0645 — plankton sample (all stns)

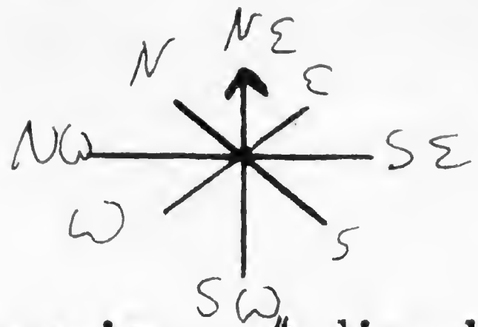
time	species	sw#	dir.	hgt.	remarks (Observation began 0000)	loc.
0652						
~~0652~~	Pterodroma	1	S	-	-	
~~0652~~ 0702	white necked Petrel	1	S	-	-	
0721	Bonin Petrel	1	N			
0721	Pterodroma	1	S		flock of 6 birds reported by watch with 5 white birds (Petrels?) and 1 large brown bird (Booby?)	
0722	"	1	SE			
0722	"	1	SE			
0724	"	1	ESE			
0734	Bonin Petrel	1	SE			
0734	Red-T Tbird	1	~~E overlay~~	200'		
0735					resume course	
0740	Bonin Petrel	1	NW			
0746	" "	1	NW		100 yds Port	
0756	white-necked Petrel	1	SW	-		
0805	Sooty Shear?	4	SE		500 yds ~~off~~ off starboard bow - same as previous groups	
0815	Bonin Is?	1	SE		medium size chunky all dark - too far to see underwing flapped a lot for Bonin Is. Flew away from ship.	
0825	Bonin Is P.	1	W		First seen 100 yds but ~~-~~ never too clearly	
0843	Sooty Shear?	9	S		75 yds off bow	
0846	Golden Plover	2	NE		300 yds off bow - light wrong - no view of underwing	
0850	Bonin Is P.	1	W		first seen 200 yds to port	
0854	Bonin Is. P.	1	NE		~~-~~ came to within 200 yds of bow	
0855	Bonin Is P.	1	W		400 to port	
0925	Sooty Shear.	2	S		400 to port	
0941	white n. petrel	1	SW		300 yds. off bow silver lining seen.	
0948	Pterodroma sp	1	SW		400 yds. port	
0958	Sooty Shear.	1	S		500 yds port - very fast	
~~0110~~ 1010	Pterodroma	2	W		500 yds off bow: silver lining seen	
1020	Sooty Shear	15	S		50 yds off fantail	
1035	Golden Plover	1	(		glimpse of silver lining	
1052	Bonin Is P.	1	NW		may have been sitting in water - popped up 50 yds to port.	



Bonin - BWP

DATE 9 Nov 63
Pg.# 2

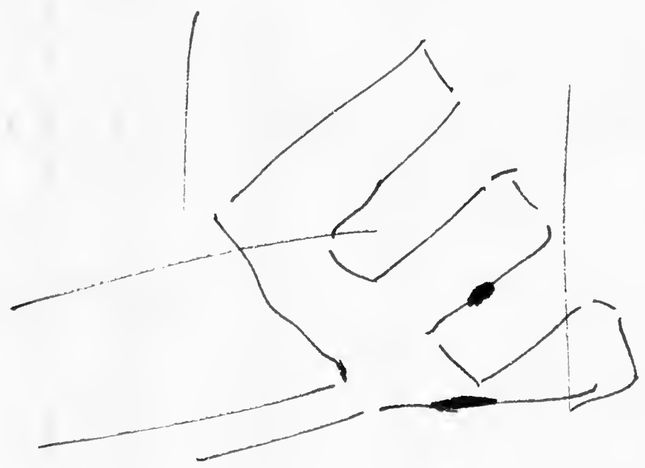
time	species	#	dir.	hgt.	remarks	loc.
1058	Bonin I SP	1	NW		Came directly toward ship until 100 yds away, then veered suddenly away amid a flurry of wingbeats	
1110	Pterodroma	1	N		1000-1500 ydt	
1122	R.T. TROPIC	1	SE		1500-2500 yds. across bow to stbd.	
~~1126~~						
1126	Bird	1	SE		500 yds stbd. bow	
1143	Bonin I. Petrel	1	SE S		150 yds. stbd.	
1155	SOOTY SHEARWATER	4	SW	—	? poor light - moving fast	
~~1231~~						
1231	Plover ?	1	S	75-100'	flying fast. wind pushing. 400 yds	
1231	Bonin I. Petrel	1	NW	5-20'	stbd to port.	
1232	Pterodroma	1	SW		stbd. to stern. 500 yds.	
1240	Sooty Shearwater?	2	S		stbd. 500 yds.	
1244	Bonin I. Petrel	1	SE		150 yds.	
1303	Pterodroma	1	S		500 yds, low over water.	
1318	W. N. Petrel ?	1	A		200 yds. Dark brown on surface.	
1354	~~Tern sp~~ ~~G. Plover~~ ? G. Plover	2	W		stbd. to port to beam, circle dive (Bob, 2 was right.)	
1401	Golden Plover	2	E		probably same as before	
1409	Sooty Shear	33	S		good look - 400 off bow	
1413	Sooty Shear	40	S		good look 400 off bow	
1420	Bonin I. P.	1	W		300 yds off port bow	
1425	Pterodroma SP.	1	E		1000 yds off port bow	
1428	Bonin I SP	1	W		400 to port	
1429	Red T. tropicbird	2	E	100ft	flew over ship	
1436	Pterodroma	1	W		600 yds off bow	
1451	Pterodroma	1	W		600 off port bow	
1452	Pterodroma	1	S		800 off starboard	
1455	White-necked?	1	S		800 off starboard	
1457	Whiteneck P	1	NW		first sighted 800 off bow - Bonin circled back	
	Bonin I s	1	NW to S			
1458	Tropicbird SP.	1	E		dropped astern	
1505	White-neck P?	1	NW		800 yds off bow	
1506	Sooty Shears	50+	S		1000 yds off starboard bow - silver lining seen.	
1512	Golden Plovers	1	E	50ft		

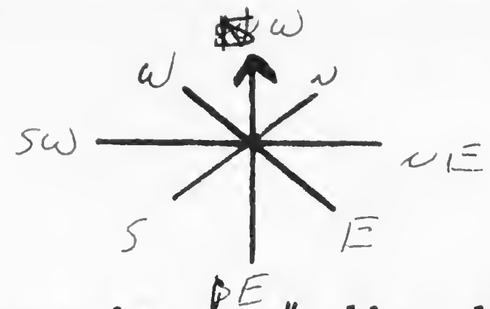


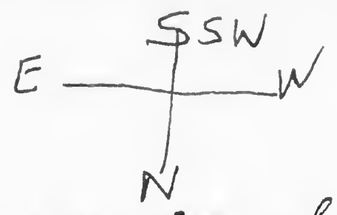
Bonin - PAP

DATE 9 Nov 63
Pg.# 3

time	species	#	dir.	hgt.	remarks	loc.
1520	Sooty Shear ?	20+	S?		Made wide detours to avoid ship - 1200 yds off port	
1526	Red t. tropicbird	2	E		couldn't see silver lining but shape & behavior same	
1534	Bonin I. P.	1	S		flushed from H2O 200 yds off starboard bow	
1537	Dark rumped P	1	↱		300 to starboard	
1546	White Necked P	1	S		150 yds to starboard	
1540	Sooty Shear	2	S		sitting in water - fired at - just out of range	
1540	Bonin I. P.	1	⇨		400 to starboard - one at least sitting in water too	
1550	~~Dark-rump~~ P	1	⇒		200 off bow	
1551	Golden Plover	1	SW		Dark neck - 200 yds across bow	
					20 yds to starboard	
1610	Sooty Shear	4	S		250 yds off bow	
1615	Bonin I. S	2	S		250 yds off starboard	
1622	Pterodroma sp.	1	S		1500 yds to starboard	
1624	Pterodroma sp	1	SE		1000 yds to port	
1640	Booby sp ?	1	NE		1200 yds to port - sighted by watch	
1645	Pterodroma sp.	1	SE		800 yds off bow	
1654	Pterodroma	1	SE		1000 off bow	
1656	White tailed P. ?	1	SE		600 yds off bow	
1703	Large Pterodroma	1	SE		1000 yds off bow	
1709	Pterodroma	1	SE		1000 yds " "	
1713	Sooty Shearwater	30± 5	S		300 yds	
1718	Pterodroma	1	S			
1723	Wedge tail	1	NW		light phase	
1728	Flock Birds	35±	SES		1-2 miles on starboard bow	
1735	Sooty Shearwater ?	25±	S		port	
1743	White tailed Petrel	1	S		100 yds star port	
1754	Bird	1			Port Quarter by watch.	
1805	Bird	1	SE		By watch.	
1807					STOP THE WATCH !	



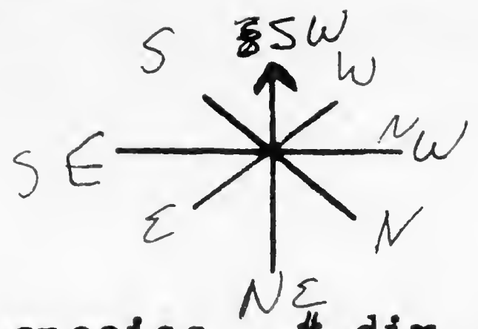




Basin = BWP

DATE 10 November 1963
Pg.# 1

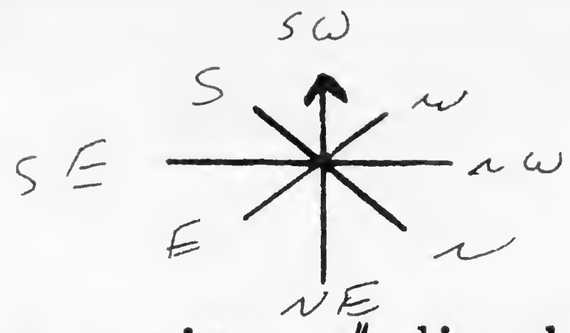
time	species	#	dir.	hgt.	remarks observation began 0200	loc.
					Course change & ~~0700~~ NW at 0100	
0243	Tern	1	NW		flying off Port bow	
0253	Tropic bird	1			calling overhead "single "kek" notes	
0535					flock calling over ship then off to port 3-4 pts; considerably more according to callers & observers on ship - calling.	
0545	tropic bird	1				
0630	seabird	1	SE		600 yds ±	
0635	Sooty shearwater	1	SE		300 yds out ~~on~~ off port	
0637	" "	1	SE		800 yds off ~~port~~ starboard	
0710	white n. petrel	1	S		800 yds off starboard	
0725	Golden Plover	3	⊙		circled ship	
0733	Sooty Shear	18	S		500 off stern while stopped for plankton	
0740	Sooty Shear	1	S		500 off stern	
0756	Golden Plover	1	⊙		} possibly above 3 birds ? veered course	
0800	" "	2	⊙		} one landed on helo deck & folded wings. one touched and fly off. plankton detail approx	0630 - 0800
0818	Pterodroma	1	N	—	—	
0820	Pterodroma	1	W	—	—	
0832	Pterodroma	1	W	—	—	
0834	Red Tail Tropic bird	5	NE	200'	circling astern !	
0842	Pterodroma	2	W			
0845	R.T. Tropic	4	⊙		circle overhead at 1000 - 1500 ft. (same as above)	
0850	Shearwater	1	W	—	dark brown above ; white belly - dirty white underwing with black hash mark. Shearwater Light & about same size as Wedgetail.	
0900	Pterodroma	1	W	—		
0900	Frigate bird	1	⊙	200'		
0902	Pterodroma	1	NE	5-20'		
0908	R.T. Tropic bird	1	⊙	150'	- may have been with above groups.	
0915	Plover					
0932	B.T. Petrel	2 / 1	⊙	across Ship.	- same as above probably.	
			NE			
1012	Golden Plover	1	⊙	40'	—	
1032	Pterodroma	1	N		—	
1035	Sooty Shearwaters	20±	E	—	?	



Bonin = BWP

DATE 10 Nov.
Pg.# 2

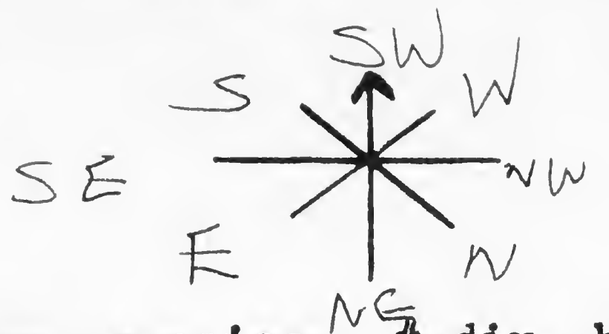
time	species	#	dir.	hgt.	remarks	loc.
1038	Sooty Shear ?	20	SE	—	—	
1039	Pterodroma	1	SE	—	—	
~~1035~~	~~Sooty Shear~~	~~20~~	~~SE~~ ESE	~~15 ft.~~	~~1500 + yds~~	
~~1043~~	~~Sooty Shear~~	~~15+?~~	~~ESE~~	~~15 ft.~~	~~1800 + yds.~~	
~~1043~~	~~Pterodroma~~	~~1~~	~~ESE~~	~~10 ft.~~	~~350 yds~~	
1058	FLOCK					
	Wedge tail (light phase)	1	NE	—	—	
	Sooty Tern	1				
	Bonin. do	1				
	Pterodroma	1				
1124	Sooty Shear ?	2	S		bad light - no silver lining seen but birds similar to previous ones in flight pattern & size - 600 to stern	
1127	Sooty Shear ?	9	S		ditto above except 600 off bow	
1144	Golden Plover	1				
1148	Sooty Shear ?	20+	S		1 inlet off bow - seen only above horizon when banking	
1149	Sooty Shear ?	2	S		500 yds off bow } deviation from Southerly course	
1155	Sooty Shear ?	25	S		1000 yds off bow } if any is to the East	
1156	Bonin Is ?	1	SE		flew directly away from ship - first seen 300 yds off port	
1157	Sooty Shear ?	2	S		straggling behind flock of 1155 - also 1000 yds off bow	
1158	Wedge tail	1	S		light phase 600 yds off port bow	
1242	Storm Petrel sp.	1	SE		300 yds off bow	
1250	Sooty ~~Sooty~~ Shear ?	1	S		800 yds off bow	
1250	Sooty Shear ?	50+	S		2 groups close together passed to far side of feeding flock under observation since 1235	
1258	Sooty Shear ?	20	S		Sooties must have seen flock but did not pause ! about 1 mile + off bow	
1313	Sooty Shear ?	35±	S		Passed 600 yds off bow between ship and feeding flock	
1320	Sooty Shearwater	20±	S		Passed on far side of feeding flock - about 1500 yds out, off bow.	
1315	Flock				not seen to be actually feeding	
	Sooty tern	9			1st spotted at 1235, we closed them at call 1/2 knots per hour + caught up with them at 1315	
	Wedge tail	10±			no flying fish	
	Dark rump Petrel	1				
	Bonin Petrel	1+				
	Pterodroma	10+				
	Shearwater	1			same bird as at 0850, as large & larger than wedge tail	
	Pterodroma	1			fluttering flapping of wings, fast flight & dark wing about divided white to areas	
					dark under wings white belly (Phoenix Petrel ?)	



(Bonin - BWP

DATE 10 November 1963
Pg.# 3

time	species	#	dir.	hgt.	remarks	loc.
1334	Bonin Petrel	2	NW			
1334	" "	2	SE			
1335	" "	1	SE			
1339	Sooty Shearwater?	20±	S		on horizon star Bow	
1345	Pterodroma	2	S		1000 yds off stbd.	
1347	Pterodroma?	1	S		800 yds off port.	
1351	Bonin & Petrel	1	S		400 yds across bow S to port.	
1352	" "	1	NW		200 yds " " P to starboard	
1353	Pterodroma	1	S		1000 yds. S to port	
1356	Sooty? Shearwater	25+	S?		on horizon	
1356	white n. petrel	1	SW		on H_2O - flew off as we approached.	
1401	Sooty? shearwater	125+	S		closest - 800 yds off bow.	
1406	Bonin & Petrel	1	S		1000 yds off starboard	
1416	red-t.t. bird	1	S		150' over ship	
1416	golden plover				1 HEARD ONLY	
1421	red t.t. bird	2-3+			circling over ship. prob. same bird as 1416. then joined by 2nd. then joined by 3rd bird.	
1434	wedgetail	1	SE		light phase - 200 yds across bow.	
1445	Pterodroma?	3	SE		very close to water; poor visibility - 1500 yds ±	
1448	Pterodroma	1	SE		601 yds off port	
1448	Pterodroma	1	SE		800 yds across bow.	
1454	red. t bird	1	W		— only 1 over ship now.	
1456	Pterodroma	1	NE	-	-	
1457	white-necked Petrel	1	N	-	-	
1502	Bonin Do.	1	N	-	-	
1505	Large Pterodroma	1	E	-		
1505	SOOTY SHEAR	10	S	-	—	
1505	R.T. Tropic bird	1	NW	75'	- same as above?	
1507	Large Pterodroma	1	S	-	—	
1507	Bonin Do	1	NW	—	—	
1510	R.T. Tropic bird	3	ese	75'	- same as above?	
1518	Bonin D.P.	1	N	—	larger than tropicbird which it was chasing & being chased by. dark solid brown, chest brown, belly white. under wing - wing fairly rounded — white	
1521	Bonin D.P.	1	N	—		
1523	skua like bird	1	?	—		
1532	Bonin Do.	1	S	-	sitting on water & then flew.	
1539	SOOTY SHEARWATER	20±	S	-		



Bonin - BWP

DATE 10 Nov 1963
Pg.# 4

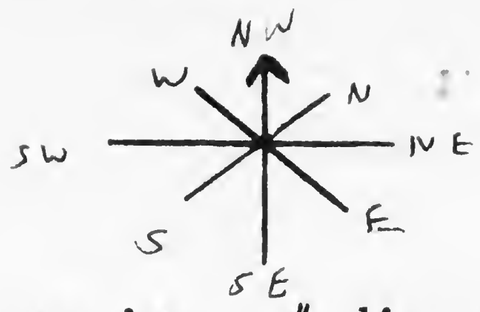
time	species	#	dir.	hgt.	remarks	loc.
1547	bird	1			seen by watch	
1552	Shearwater	1	NW	—	—	
1600	SOOTY SHEARWATER	50±	S	-	-	
1600	GOLDEN PLOVER	1	SE			
1605	flock —					
	wedgetail	14			included 1 dark phase wedgetails 5-6	
	Bonin Petrel	6				
	white rumped petrel	?1	SE			
1620	Bonin Island Petrel	1	SW	-	-	
1622	Pterodroma	1	NE			
1624	Bonin Is.	3	NW	-	—	
1635	Bonin Is	1	SW			
1635	Sooty (?) Shear	5+	S		saw 5 at limit of.	
1640	Pterodroma	3±			Very loose assemblage of birds	
	white rumped Petrel	2				
	Bonin Petrel	4				
[redacted]	Dark rump Petrel	1			Possibly a feeding flock breaking up	
1645	Golden Plover	2				
1647	Sooty Shearwater?	6	S			
1656	Bonin Petrel	1	SE		100 yds bow	
1702	Dark Rump Petrel	1	E		100 yds Port	
1705	Bonin I. Petrel	1	S		100 yds. Port.	
1707	" "	1	SSE		100 yds Port bow.	
1708	W.N. Petrel	1	ENE		100 yds. to port	
1719	D. Plover	1	—		Port side landed on helo deck at 1721 pecking at deck.	
1720	Shear - Petrel?	1	NW		500-600 yds stbd. ~~landed helo deck at 1721.~~	
1724	D. Plover	1			1719's mate?	
1734	B. I. Petrel	1	SE		400 yds. Bow.	
1736	D. Plover	2			50 yds.	
1737	—				Bird on deck showed interest as a plover flew over # 2 hatch to port side.	
1749	Golden Plover	2			around ship	
1806	Shearwater	1	SE		50 yds.	
1821	D. Plover	1			heard & seen by Pat. apparently the same bird flown the 1721 entry.	
1940	G. Plover	1			heard [station ended 1950]	

DATE 10 Nov 63
Pg.# 5

Boreas = BWP

observation resumed -

time	species	#	dir.	hgt.	remarks	loc.
2130	Tropicbird	1		50 ft	Passed over bow	
2152	Golden Plover	1			called 3 times	
2230	Tropicbird	1				
2245	Tropicbird	1		50 ft	ran into bird ball and recovered just before hitting water.	
2311	Golden Plover	1		50 ft	Passed over several times called 2 times	

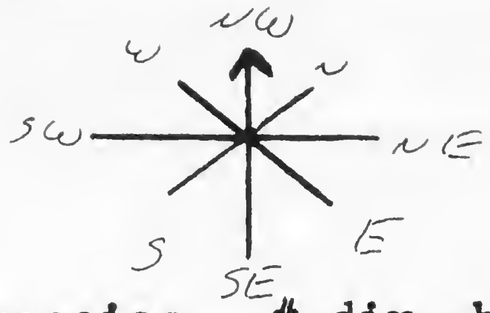


Basin - BWP

DATE 11 November
Pg.# 1

observation began 0000

time	species	#	dir.	hgt.	remarks	loc.
0002	Tropicbird	1	O		calling overhead	
0041	Golden Plover	1	O		calling along side ship	
0120					rain squall observation stopped	
0153					observation resumed after rain squall	
0333	bird	--	--	--	across bow - prob. a Tropic bird	
0429	change course to 317°.					
0636	T. tropic bird	1	SW		high over ship	
0636	golden plover	1			apparently spent night on ship. - tame, doesn't look completely healthy.	
0642	Sooty Shear	2	S			
0643	Sooty Shear	2	S			
0650	Sooty Shear	8	S		all across bow 250 yds – 1000 yds	
0651	Sooty Shear	15	S			
0654	Sooty Shear	7	S			
0654	Sooty Shear	4	S		all astern 200 yds to 800 yds	
0655	Sooty Shear	12	S			
0655	Sooty Shear	13	S			
0656	Sooty Shear	19	S		off bow 300 yds	
0657	Sooty Shear	8	S		off stern 500	
0658	Sooty Shear	10	S		off stern 500	
0658	Sooty S.	7	S		off starboard 150 yds	
0658	Pterodroma	2	SE		off starboard 150	
0659	Sooty S.	18	S		off starboard 600	
0700	Sooty S	3	S		off Starboard 500	m.s. Polly reports flock of 7 birds that reminded him of the Golden Plovers we have been seeing ca 10-12 birds about 0700 at 500 yds.
0701	Sooty S	8	S		off starboard 500	
0702	Sooty S.	10	S		off port 300 yds.	
0704	Sooty S.	4	E		across bow - flying EAST	
0708	dk. t. bird	1	E		over ship	
0708	Kermadec petrel	1	N		brown. flight: head, very white beneath, dark above - (good contrast) light areas on dark under wing - reminded me of white rump at first	
0708	Sooty Shearwater	24	S			
0712	Sooty? Shearwater	3	E		flying EAST	
0749					resumed course.	
0806	white-vent Petrel	1	SW			
0828	Sooty Shear	1	S		close off bow	
0829	" "	1	S		" " "	
0833	" " ?	15±	S		ca 1+ miles	

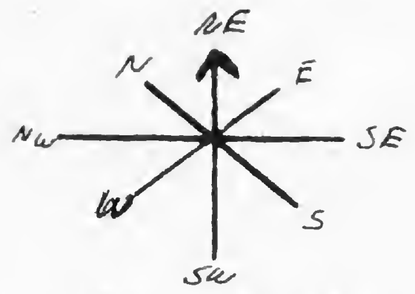


Bonin = BWP

DATE 11 November
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
0843	Wedge-tail	1	SE		100 yds off port — light phase	
0900	Sooty Shearwater	10	S			
0900	" "	1	S		one struggling, behind other above flock	
0907	Bonin Petrel	3				
	Pterodroma	2			Probably on water all five together, but split up almost immediately	
0920	Red-tail Tropicbird	1	NE			
0934	Sooty Shearwater	3	S			
0934	Pterodroma	1				
0934	Blue-faced Booby	1	S		coming towards ship actual.	
0937	Pterodroma	1	NW			
1001	Sooty Shearwater	2	S			
1001	Wedge-tail	1	SE			
1009	Golden Plover	1	⊖			
1022	Sooty Shearwater	2	S			
1022	Wedge-tail	1	W			
1023 1165	Golden Plover change course	1	⊖		to 047 NE	
1110	Sooty Shear	1	S		400 yds off starboard	
1121	Harcourts Storm Petrel	1	E		300 off starboard - white rump quite clearly made out	
1155	Red-t-bird	1	NW		took off from H2O - flew ½ mile ± & relighted.	
1244	Sooty Shear	14	SE		250 yds off bow	
1255	Masked Booby	1	NE		Followed ship & was scared off by shots - went ahead off bow	
1308	Red t. tropicbird	1	W			
1325	Bonin I. P.	2	⇨	100 ft	passed over ship	
1329	Sooty Shear	3	S		150 yds off bow	
1333	Sooty Shear	12	SE		350 yds off bow	
1335	Red t. tropicbird	1	⊙	100 ft	going away from ship to starboard 350-500 yds circled ship	
1342	Sooty Shear	7	S		400 to starboard	
1346	Dark Rump P.	1	E		400 to starboard	
1407	Bonin I. Petrel	1	SE		400 yds bow.	
1410	Pterodroma	1	S		400 yds. Stbd.	
1412	Sooty Shear?	10	SEE		Seen on H2O, hard to see. 400-600 yds. stbd.	
1418	Sooty Shear?	5	S		seen by watch. (Bonin I. Petrel noticed by Capt. Taylor)	
1425	Sooty Shear?	2	S			
1436	Sooty Shear?	7	SEE		1000 yds stbd. low and fast.	
1438	" "	1	S		400 yds. stbd.	
1441	Pterodroma	1	SE		600 yds. stbd.	

NE
N E
NW SE
W S
SW

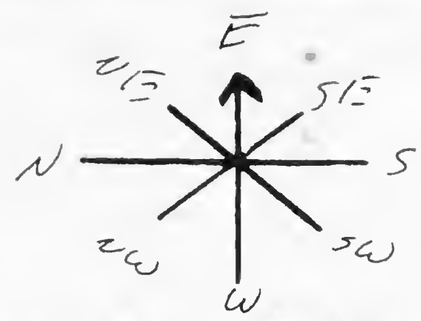


Bonin - BWT

DATE 11 Nov. '63
Pg.# 3

time	species	#	dir.	hgt.	remarks	loc.
1446	Bonin I. Petrel	1	S		from port side.	
1448	" "					
1453	" "	1	SE			
1454	" "	1	NEE			
1456	" "	1	SE		across bow to stbd.	
1502	" "	1	SE		Poss. 1454 entry.	
1528	Shearwater	1	S		800-1000 yds stbd.	
1530	Sooty Shear.	1	S			
1531	Pterodroma	1	S		800 - yds stbd.	
	"	1	S		400 yds stbd.	
1532	Bonin I. Petrel	1	VW		400 yds port	
1532	" "	1	SE		600 yds stbd.	
1541	Pterodroma	1	S		400 yds stbd.	
1561	Blue Face Booby	1	NE		500 yds stbd. sit down on H_2O.	
1600	W.T. TROPIC	1	NE		overhead, shot by Dr. Clg.	
1630	+ bird reversed	+ course + speed resumed.				
1641	Bird ?					
1658	Blue ~~Face~~ Booby	1	NE		on water, seen by watch.	
1700	Pterodroma	1	SWS		same as 1641 entry.	
1745	Booby ?	1	S		800 yds stbd.	
		1			seen by asst. keeper	
1751	Pterodroma	1	SE		500 yds stbd.	
1756	Bonin Petrel	1	SE		50 yds. stbd bow - on water	
1807	SOOTY SHEARWATER	1	S		—	

observation
ended 1810

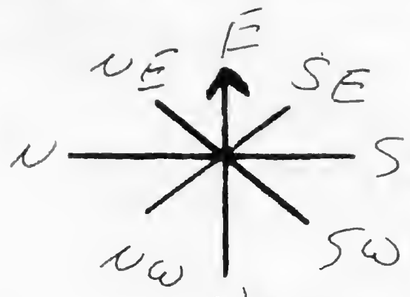


Brain = BWP

DATE 12 November 1963
Pg. # 1

observation began 0605 (0453)

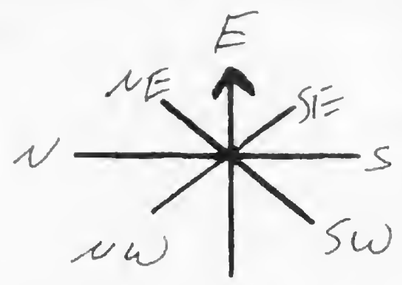
time	species	#	dir.	hgt.	remarks	loc.
0638	Sooty Shearwater	2	S			
0645					Plankton detail.	
0720	G. Plover	1	S & N	50'-100'	↩ port to stbd to Port.	
0735	Pterodroma	1	W		400 yds. stbd.	
0741	"	1	W		800 yds. stbd.	
0742					resumed course.	
0750	Bird	1	N		600-800 yds Port. Saw on water. white Belly.	
0809	Pterodroma	1	W	-	-	
0812	Golden Plover	1	S	-	-	
0838	Oahu ~~Red~~ Petrel? ~~Band~~ P.	1	S	-	collected by R. Fleet	
0844	Pterodroma	1	SW			
0912	Large Pterodroma	1	S	-	-	
0913	R.T. Tropicbird	1	~~SE~~	75'	-	
	resume course at 0920					
0927	G. Plover	1	E	-	-	
0945	Sooty Shearwater	12	S	-	-	
0955	Pterodroma	1	W		-	
0958	Shearwater or Petrel	1	W		✓	
1022	Sooty Sh.?	22	S	-	we saw 13, watch saw 22	
1028	" ?	20	S	-	-	
1050	Masked Booby	1			collected Mr. Swailes	
1102	Sooty Shearwater	6	S			
1105	Sooty Shearwater?	1	S			
1125	Golden Plover	1				
1125	Bonin Petrel	1	SE		50 yds stbd bow	
1156	Pterodroma	1	W			
1218	Common Noddy Tern	1	E	10'		



DATE 12 November 1963
Pg.# 2

Bonin = BWP

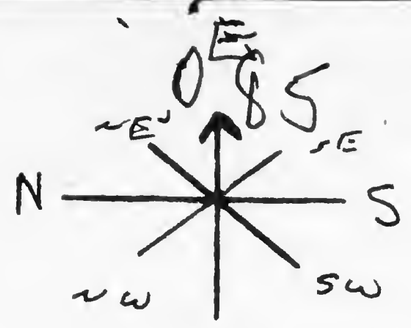
time	species	#	dir.	hgt.	remarks	loc.
1227	Flock				actively flying in tight circles low to water as if fish school near surface - None seen to feed however & no flying fish were observed	
	Bonin Petrel	5				
	Pterodroma	3				
	Phoenix Petrel?	1			Pterodroma with white below all dark head & probably tho-t, dark underwing & bramish & very dark slaty on back at 1236 & Bonin Petrel flying E cam. along side of ship & were probably part of above flock	
1237	Pterodroma	1	W		700 yds off port	
1246	Golden Plover	1	E		25 yds to port	
1252	Pterodroma	1	NW		600 to port	
1255	Dark rump Petrel	1	N		sitting on water	
1256	" " "	1	NW		" " "	
1314	~~Pterodroma~~ Bonin Petrel	1	N		300 yds off bow	
1319	Pterodroma	1	—		800 yds port bow	
1321	"	1	N		300 yds port bow	
1338	Bonin Is P	1	⇨		250 off bow	
1355	Bonin Petrel	1	⇩ E			
	Pterodroma	2				
1405	Fairy Tern	1	NW		stbd. bow to port stern.	
1413	D.R. Petrel ?	1	NW			
1418	Flock					
Red-footed	Booby ~~Petrel~~	2			collected by Bob Fleet and Mr Smiley.	
	B.I. Petrel	1			800 yds Bow ⇉ (imm. R.F. Booby #2.	
	Pteradroma	3			" " ⇉ " " " #1.	
1438					Shipboard pick-up completed.	



Boin = BwP

DATE 12 November 1963
Pg.# 3

time	species	#	dir.	hgt.	remarks	loc.
1447	Boin Petrl	1	⇉			
1450	Pterodroma	1	SW			
1450	Pteradroma	1	SW			
1451	Pterodroma	1				
1456	white-web Petrl	1	NW			
1535	Pterodroma	1	SW			
1554	Dark rumped?	1	NW		—	
1600	Pterodroma	1	SW			
1601	Pterodroma	1	~			
1610	Red Foot Booby	1	E		passed ship into wind 300 to port	
1611	White Neck P.	1	S		200 yds off bow	
1623	R. T. Tropic	1	SSW	200'	400-800 yds stbd.	
1624	Sooty Shear.	4	SSW	10-50'	200 yds.	
1635	Pterodroma	1	SSW		1000 yds stbd. bow.	
1652	Bird	1	S	—	Seen by Dresser.	
1652	[redacted]				50 yds. BOW Beer can (Lucky Lager) Sunk by Mr. Smith could this can have floated from Johnson Island ??	
1658	Pterodroma	1	SSE			
1732	Pterodroma	1	NW		1500 - 2000 yds. stbd. bow.	
1742	Pterodroma	1	S			

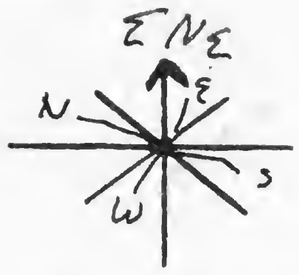


Bonin - BWP

DATE Nov. 13
Pg.# 1

Obs. begun @ 0545

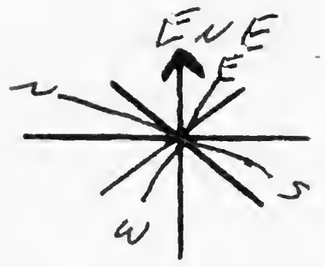
time	species	#	dir.	hgt.	remarks	loc.
					stopped for plankton at 0650	
0710	Shearwater	1	NNE	5'-10'	150 yds. Port beam.	
0721	B.-t. Petrel	1	SE	5-20'	150 yds stbd.	
0726	Pterodroma	1	NW	—	500 yds.	
0734	Wedg.-tail	1	N		light phase	
0737	Pterodroma	1	NW			
					resume course 0759	
0740	Masked Booby	1	E	5'-50'	Following ship's wake. Searching for food? (in ship's wake.)	
0749	Pterodroma	1	E		collected by Capt. Kepler at 30 yds.	
0833	Pterodroma	1	S			
0837	Pterodroma	1	S		600 to starboard	
0845	Wedgetail ?	1	E		600 off starboard bow	
0918	Bonin Is P.	1	NE		800 off port bow	
0928	Wedgetail	1	N		500 off bow	
0955	Wedgetail	1	N		light phase	
0956	Pterodroma	1	N		light phase	
1004	Sooty Shearwater	1	SSE		Just in front of rain squall	
1017	Wedgetail	1	E		light phase	
1030	Pterodroma	1	SW			
1040	Pterodroma	1	SW			
1045	white-reed Petrel ?	1	NNE			
1048	Dark-rump Petrel	1	N		sitting on water 200 yds off Port bow	
1049	" " "	1	N		" " " " " " " "	
1051	white-reed Petrel	1	N		" " " " " " " "	
1056	Dark rump Petrel	2			} all 4 sitting together on H2O 700 yds off Port bow	
	white reed Petrel	2				
1117	Flock					
	Wedg.-tail	2				
	long P. tenuirostris	2				
	Kermadec Petrel	1				
1121	Sooty Shearwater	1	S			
1125	Wedgetail	2	E		light phase	
1130	Pterodroma Dark Rump P.	1	N			



Bonin : BWP

DATE 13 Nov
Pg.# 2

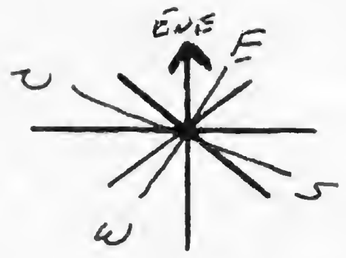
time	species	#	dir.	hgt.	remarks	loc.
1144	Bonin Is P.?	1	S		600 off bow	
1158	Phoenix P.?	1	ENE		medium sized petrel all dark under wing with white stomach - throat not seen flying together same direction as ship into wind at 300 to port	
	White neck P.	1	ENE			
1226	white n. petrel	1	SE			
1226	petrel?	1	NW	—	seen by capt.	
1235	Bonin Is. Petrel	1	NW			
1236	Bonin Is. P.	1	S			
1250	Bonin Is P	1	W			
	White Neck P.	1	W		800 to port	
1250	Pterodroma	1	SW			
1258	wedge tail	1	SE		100 yds to starboard (carrier)	
1303	golden plover	1	ENE		last phone - 200 yds out.	
1344	Pterodroma	1	S	-	-	
1401	Dark rumped Petrel	1	N	-	- was sitting on water, then flew	
1404	white neck Petrel	1	N		"	
1404	Bonin Petrel	1	N			
1411	G. Plover	1	E	-	- over helio deck.	
1417	Ptradroma	1	S	-	—	
1419	Bird	1	—	—	—	
1424	Dark rumped Petrel	1	NW	-	-	
1428	white - neck Petrel	1	S			
1431	~~Bonin Is~~ Bonin Is	1				
1434	Flock of Pterodroma	10	—		→ trailing ca 1 mile to starboard	
1435	Pterodroma	4	} ES			
	white - neck Petrel	1				



Boring = BwP

DATE 13 November
Pg.# 3

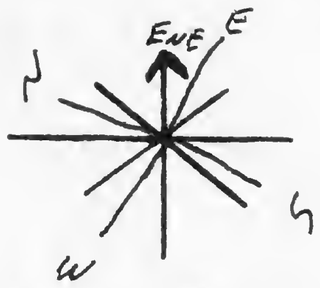
time	species	#	dir.	hgt.	remarks	loc.
1435	White vent Petrel	1			all these bird heading E are probably	
	Bonin Petrel	1	E	S	heading for folock of 10 off starboard	
	Dark rump Petrel	1			Flight pattern is typical of them heading for	
1436	Bonin Petrel	1	E		some special place.	
1439	Pterodroma	1	ENE			
1440	Bonin Petrel	1	S			
1440	Pterodroma	1	S			
1448	Pterodroma	2	S			
1449					Black Noddy? 2+ blowing off Starboard side	
1455	White vent Petrel	1	NW			
1455	Pterodroma	1	SSE			
1458	Bonin Petrel	1	NNW			
1459	Bonin Petrel	1	NNW			
1514	Pterodroma	1	S			
1516	Dark-rump Petrel	1	NW			
1517	white vent Petrel?	1	S			
1524	Red footed Booby	1	N		adult female had bright red feathers was	
1529	Pterodroma	3	S		towing	
1530	Bonin Petrel	13				
	—— Tropicbird	2				
	Red-tail Tropicbird	1	ENE			
1535	Pterodroma	1	E			
1538	Dark-rump Petrel	1	NE			
1538	Pterodroma	1				
1539	Pterodroma	1	S			
1540	white vent Petrel	1				
	Dark-rump Petrel	1				
1540	Bonin Petrel	1	N			
1549	Pterodroma	1	E		1 mile	
1549	"	1	E		500 yds	



Bonin - BWT

DATE 13 November 1963
Pg.# 4

time	species	#	dir.	hgt.	remarks	loc.
1600	Pterodroma	1				
1601	Pterodroma	5-				
1605	Flock				actively feeding & flying fish present	
	Frigatebird	1	frem.			
	Dark mg/stel	5+				
	White wed/stel	2+				
	Pterodroma	10±				
	Phoenix P	1			black ventral wing surfaces - grey throat & upper breast coverts clearly seen! WBK from 250 yds across bow	
1638	Bonin Is P	1	SE		500 off bow	
1638	White Neck P?	1	SW		300 off starboard	
1645	Wedgetail	1	ENE		600 to port light phase	
1700	Wedgetail	1	N		700 off starboard bow light phase	
1705	Wedgetail	1	SE		500 off bow light phase	
1734	Pterodroma	1	NE		400 off ~~bow~~ port	
1738	Wedgetail	1	E		300 off starboard	
1800					finished observations	

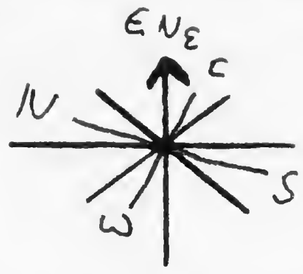


Bonin = BoP

DATE 14 November 1963
Pg.# 1

observation began 0550

time	species	#	dir.	hgt.	remarks	loc.
0724	Pterodroma	1	ENE			
0802	Red t. tropicbird	1	-		sitting on H_2O 300 to port	
0803	Pterodroma	1	NE		800 to port	
0810	Pterodroma	4	W		small flock sighted by Davis astern 1000 yds	
	wedgetail	1			light phase	
0811	Pterodroma	1	SW		800 starboard astern	
0851	Bonin Is P.	1	NW		150 yds off bow	
0857	Pterodroma	1	NW		500 yds behind ship	
0904	Bonin Is P.	1	NW		300 to port	
0931	Pterodroma	1	W		400 behind ship	
0932	Bonin Is P	1	NW		400 off port bow	
0945	Bonin Is P.	1	NW		500 off Port	
1014	Pterodroma	1	NW		800 to port	
1021	Common Noody Tern	1	NE	5-15	across bow to port 150 yds.	
1035	Bonin Is P.	1	S		300 to starboard	
1110	Dark Rump P	1	NW		100 off port bow	
1140	FRIGATE	1	ENE	150-300	mature male, Following ship. 300-400 yds, port side and astern.	
~~1328~~	W.T. TROPIC	1	↝	E	100' overhead.	
~~1334~~						
1334	Manx Shearwater	1	N		150' yds off bow	
1400	Pterodroma	1	W		1000 yds off port	
1407	Shearwater/ Pterodroma	1	S		May have been Sooty Shear. 1000 to starboard bow	
1410	Pterodroma	1	S		700 to starboard	
1412	Pterodroma	1	-		flew in & sat on water 500 to ~~starboard~~ port	
1414	Pterodroma	1	N		1000 yds off port bow	
1415	Bonin Is P.	1	NW		500 to port	
1440	Bonin Is P.	1	N		300 off bow	
1448	Harcourt's Storm Petrel	1	S		close to ship. white rump clearly seen	
1515	Bonin Is P	1	SE		500 off starboard bow	
1530	Bonin Is. P.	1	S		500 off Starboard	
1631	Pterodroma	1	NW		1500 yds off bow	
1745	Red Foot Booby	1	ENE		Immature - 50 yds to port	

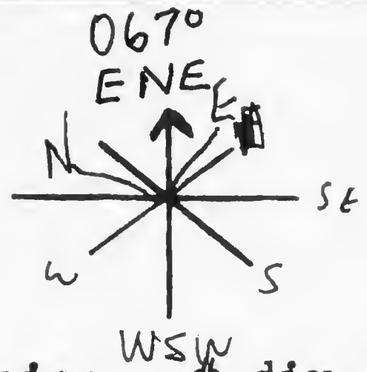


Bonin = BWP

DATE 14 NOV 63
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
1546	Ptarodroma	1	NW		1200 off bow	
1554	Ptarodroma	1	S		1200 to starboard	
1558	Bonin Is P?	1	W		1000 to port	
1617	Bonin Is P.	1	W		500 to port	
1637	Bonin Is P.	1	SW		500 across bow	
1638	Ptarodroma	1	S		1000 to starboard bow	
1638	Ptarodroma	1	S		1500 to starboard bow	
1645	Bonin Is. P.	1	N		400 to port	
1650	Bonin Is. P.	2	W+		first seen off port bow 500 - one flew astern other across bow + back	

watch secured 1740



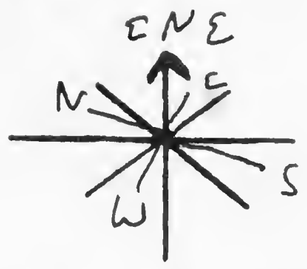
Bonin - BWT

DATE 15 November 1963
Pg.# 1

plus begun @ 0645

time	species	#	dir.	hgt.	remarks	loc.
0703	Sooty shearwater	1	SE	low	150 yds across bow	
0714	red-footed booby	1	ENE	~~10'~~	over ship - 3mm. very close	
0720	wedgetail	1	NW		100 yds across bow	
0733	Manx Shear?	1	N	-		
0808	Pterodroma	1	~~WNW~~ NNW	-	-	
0901	Frigatebird	1	ENE	100ft	150 yds to starboard - flying into wind	
0951	Wedgetail	1	S		800 to port light phase	
1030	Albatross sp.	2	SW		500 to starboard passing astern - flew like large shearwaters - one all dark - second not seen until somewhat astern of us appeared all black on ventral wing surface & all white breast. Dorsal surface not seen clearly. (King + Davis)	
1042	Pterodroma	1	W		500 to port - scaled very high (considerably above horizon) due to strong wind	
1116	B. I. Petrel	1	NW			
1117	Wedgetail	1	S		100 yds. Port;	
1118	Sooty Tern	1	S		600 to starboard	
1144	Sooty Tern	3	NE	10-20'	500 to starboard	
1207	Bonin Petrel	1	SSE		400 to ~~stbd~~.	
1208	Red-foot Booby	1	NNW	—	adult	
1335	Wedgetail	1	E-NE	-	—	
1415					change course to 090 (E)	
1438	Red-tail Tropicbird	1			sitting on water 50' from ship (Port side	
1512	masked booby	1			adult. sitting on water 50 yds from port side.	
1515	Band. Pet.	1	SE		200 yds star.	
1520	Pterodroma	1			1000 yds +	
1530	flock				feeding actively - diving into water	
	Sooty tern	16				
	white tern	2				
	red footed booby	2				
	Pterodroma	3+				
1612	shearwater?	1	SE	~~1 yds~~ 1000 yds	Pterodroma pattern - but shearwater flight - flaps & sail - not scaling. looked like larger wings.	
1630	Pterodroma	2	W		600 to port	
1635	frigatebird	1	SW	100ft	flying straight toward ship with fast, constant wing beats, disappeared suddenly before being able to identify	

E / N / S / W



Bonin - BWP

DATE 15 Nov 63
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
1636	Pterodroma	2	NW		1200 off port bow	
1639	Pterodroma	1	N		600 to port	
1735	Pterodroma	1	NW		800 off bow	
1735	Pterodroma	1	SW		800 off bow - crossed path of previous bird	
1739	Bonin I. P	1	NW		500 off port	
					watch secured at 0615	
					sic. 1815 - Cor.	
					ok Pff.	

November 1, 1963

Time at entrance to Pearl Harbor: 1100 W

Time of sunset: 1800 W Position at sunset: 20°-46.2'N 158°-58.5'W
Miles between entrance to Pearl Harbor and sunset: 70
Miles between sunset and 2400: 58

Time of fix	Type of fix	Longitude	Latitude
1. 1128 W	VISUAL	157-58.5 W	21°-12.2'N
2. 1255 W	VISUAL	158-07.1 W	21°-00.2'N
3. 1709 W	LORAN	158-48.8 W	20°-48.5'N
4. 1913 W	LORAN	157°-08.5 W	20 43.5 N
5. 2247 W	LORAN	159°-33' W	20° 30' N

Novembe r 2, 1963

Time of sunrise: 0637 W
Time of sunset: 1716 X
Miles between 0000 and surnise: 57
Miles between sunrise and sunset: 97
Miles between sunset and 2400: 65

Position at sunrise: 20-17.5 N 160-57.2 W
Position at sunset: 19°-41' N 162-32.2 W

Time of fix	Typ e of fix	Longitude	Latitude
1. 0623 W	LORAN	160°-56' W	20°-18 N
2. 0724 W	LORAN	161-07.8	20°-13.0 N
3. 1125 W	LORAN	161°-37.0 W	20-00.5 N
4. 1732 W	LORAN	162-26.0 W	19-44.5 N
5. 1925 X	LORAN	162°-51.5 W	19-34.5 N

November 3, 1963

Time of sunrise: 0558 X
Time of sunset: 1730 X
Miles between 0000 and surnise: 51
Miles between sunrise and sunset: 85
Miles between sunset and 2400: 64

Position at sunrise: 18°-54.0 N 164°-20' W
Position at sunset: 18-16.5 N 165-39.2 W

Time of fix	Type of fix	Longitude	Latitude
1. 0749	LORAN	164-33.0 W	18-48.5 N
2. 0935	LORAN	164-41.0 W	18-44.0 N
3. 1137	LORAN	164-53.0 W	18-38.0 N
4. 1755	LORAN	165-41.5 W	18-15.0 N
5. 1926	LORAN	165-56.5 W	18-07.5 N

November 4, 1963

Time of sunrise: 0612 x
Time of sunset: 1745 x
Time at closest point to Johnston Island: 2030
Position at closest point to Johnston Island: 16-37.0 N 169-26.5 W
Miles between 0000 and sunrise: 58
Miles between sunrise and sunset: 83
Miles between sunset and 2400: 60

Position at sunrise: 17-29.0 N 167-55.0 W.
Position at sunset: 16-55.0 N 169-55.0 W.

OK.

Time of fix	Type of fix	Longitude	Latitude:
1. 0653	Loran	167-42.0 W	17-26.0 N.
2. 1000	Loran	168-10.0 W	17-12.0 N.
3. 1120	Loran	168-23.0 W	17-05.5 N.
4. 1810	Loran visual	169-02.5 W	16-49.0 N.
5. 1900	Loran visual	169-12.0 W	16-44.5 N.

November 5, 1963

Time of sunrise: 0613
Time of sunset: 1748
Time at first point of grid proper: 1215 x
Position at first point of grid proper: 14-25 N 168-54.0

Position at sunrise: 15-19.0 W 169-06.7 W.
Position at sunset: 13-54.0 N 169-26.5 W

Miles between 0000 and sunrise: ~~56~~ 49
Miles between sunrise and grid: ~~49~~ 56
Miles between grid and sunset: 46

Time of turning around to head back to Johnston: 1750 x.
Position at turning around to head back to Johnston: 13-51.5 N 169-26.5

Time at edge of grid near point Oliving: ~~0600~~ 0601 00 x
Position at edge of grid near point Olivine: 15-03 N 169-26.0 W

Miles between turning point and edge of grid near Olivine: 71

Miles betwe en edge of grid near Olivine and 2400: 11

Time of fix	Type of fix	Longitude	Latitude
1. 0555 x	CELESTIAL	169-07.7 W	15-17.3 N.
2. 1053 x	LORAN	168-57.2 W	14-37.5 N.
3. 1123 x	LORAN	168-56.5 W	14-33.2 N.
4. 1554 x	LORAN	169-13.8 W	14 08.5 N.
5. 1854 x	LORAN	169-26.5 W	14 02.0 N.

6 November, 1963

Time of Sunrise: 0618 — Position at sunrise: 16-04.5 N 169-32 W.
Time of Sunset: 1748 — Position at sunset: 15-46.0 N 169-48.0 W.

Miles between 0000 and sunrise: 72

Time at closest point to Johnston Island: 1047 X
Position at closest point to Johnston Island: 16-41.8 N 169-29.9 W

Miles between sunrise and closest point to Johnston Island: 38
Miles between closest point to Johnston Island and sunset: 60

Time at grid between Olivine and Diorite : 1930 X
Position at grid between Olivine and Diorite: 15-30 N 169-52 W

Miles between sunset and point of grid between Olivine and Diorite: 17
Miles between point of grid between Olivine and Diorite and ~~Sun~~ 2400: 44

	Time of fix	Type of fix	Longitude	Latitude:
1.	0600 X	CELESTIAL	169-31.5 W	16-01.5 N. ✓
2.	0800 X	LORAN	169-30.0 W	16-23.5 N. ✓
3.	1119 X	LORAN	169-33.3 W	16-31.0 N. ✓
4.	1713 X	LORAN	169-49.0 W	15-51.5 N ✓
5.	1820 X	CELESTIAL	169-49.0 W	15-41.2 . ✓

7 November, 1963

Time of Sunrise: 0617 — Position at sunrise: 14-23 N 170 31.5 W
Time of Sunset: 1749 — Position at sunset: 15 22.5 N 170-03 W

Time of resuming grid pattern: 0400
Position of resuming grid pattern: 14-09.0 N 170-35 W

Miles between 0000 and sunrise: 58

Miles between sunrise and resuming of grid pattern: 20
Miles between resuming of grid pattern and sunset: 117
Miles between sunset and 2400: 63

	Time of fix	Type of fix	Longitude	Latitude
1.	0607 X	CELESTIAL	170-23 W	14-21 N. ✓
2.	0939 X	LORAN	170-02 W	14-41.5 N. ✓
3.	1125 X	LORAN	169-50 W	14-49.5 N. ✓
4.	1514 X	LORAN	169-44.5 W	15-04.5 N. ✓
5.	1818 X	CELESTIAL	170-06.7 W	15-26.5 N.
6.				
7.				

November 6, 1963

Time of sunrise:
Time of sunset:
Miles between 0000 and sunrise:
Miles between sunrise and sunset:
Miles between sunset and 2400:

Position at sunrise:
Position at sunset:

P. J. Gould

Time of fix	Type of fix	Longitude	Latitude
1.			
2.			
3.			
4.			
5.			

November 7, 1963

Time of sunrise:
Time of sunset:
Miles between 0000 and sunrise:
Miles between sunrise and sunset:
Miles between sunset and 2400:

Position at sunrise:
Position at sunset:

P. J. Gould

Time of fix	Type of fix	Longitude	Latitude
1.			
2.			
3.			
4.			
5.			

November 8, 1963

Time of sunrise: 0622
Time of sunset: 1802
Miles between 0000 and sunrise: 63
Miles between sunrise and sunset: 84
Miles between sunset and 2400: 58

Position at sunrise: 14-12.5N 171-37.0W.
Position at sunset: 13-30.0N 172-38.0W.

Time of fix	Type of fix	Longitude	Latitude
1. 0611 X	LORAN & CELES.	171-35.0W	14-15.0N.
2. 1120 X	"	171-57.5W	13-51.0N.
3. 1435 X	"	172-17.7W	13-35.0N.
4. 1533 X	"	172-28.2W	13-28.5N.
5. 1836 X	CELESTIAL	172-42.5	13-34.0N.

November 9, 1963

Time of sunrise: 0627 X
Time of sunset: 1805 X
Miles between 0000 and sunrise: 52
Miles between sunrise e and sunset: 73
Miles between sunset and 2400: 44

Position at sunrise: 14-50.5N 172-08.5W.
Position at sunset: 15-45.5N 171-19.0W.

Time of fix	Type of fix	Longitude	Latitude
1. 0605X	CELESTIAL	~~172-11.0W~~ 172-11.0W	14-48.2N.
2. 0900 X	LORAN + CELESTIAL	172-00.0W	14-59.5N.
3. 1127 X	LORAN + celestial	171-45.5W	15-13.5N.
4. 1825X	CELESTIAL	171-17.0W	15-47.7N.
5.			

November 10, 1963

Time of sunrise: 0627X
Time of sunset: 1815X
Miles between 0000 and sunrise: 50
Miles between sunrise and sunset: 101
Miles between sunset and 2400: 60

Position at sunrise: 16-50.5N 171-09.5W.
Position at sunset: 15-43.5N 172-34.8W.

Time of fix	Type of fix	Longitude	Latitude
1. 0615X	CELESTIAL	171-08.0W	16-49.2N.
2. 1022X	LORAN + CELES	171-32.0W	16-31.5N.
	" "	171-40.0W	16-22.5N.
3. 1123X			
4. 1825X	CELESTIAL	172-28.5W	15-40.0N.
5.			

November 11, 1963

Time of sunrise: 0634X
Time of sunset: 1807
Miles between sunrise and 0000: 56
Miles between sunrise and sunset: 90
Miles between sunset and 2400: 54

Position at sunrise: 14-35.0N 173-48.0W.
Position at sunset: 15-36.0N 173-42.0W.

Time of fix	Type of fix	Longitude	Latitude
1. 0635X	LORAN	173-48.2W	14-34.5N.
2. 0915X	LORAN + CELESTIAL	174-08.0W	14-48.5N.
3. 1117X	" "	174-19.0W	15-02.0N.
4. 1833X	CELESTIAL	173-39.0W	15-39.5N.
5.			

November 12, 1963

Time of sunrise: 0632
Time of sunset: 1747
Time at last point of grid: 1630 X
Position at last point of grid: 16-53.0N 171-19.0W

Position at sunrise: 16-44.5N 172-21.0W.
Position at sunset: 16-53.0N 171-08.5W.

Miles between 0000 and sunrise: 53
① Miles between sunrise and grid: 61
Miles between grid and sunset: 10
Miles between sunset and 2400: 52

① use this one if grid reached between sunrise & sunset

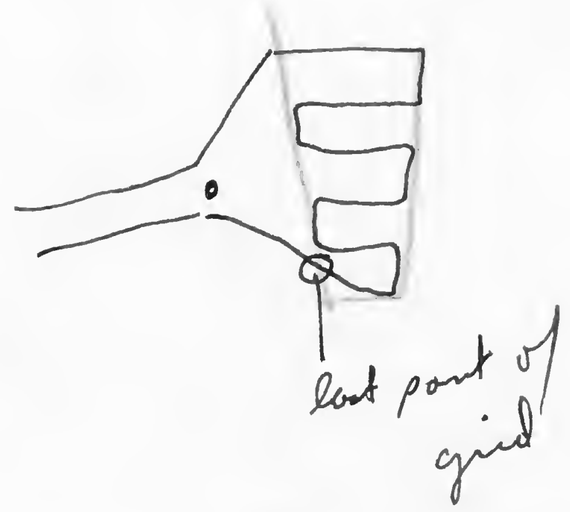
Miles between 0000 and grid:
Miles between grid and sunrise:
② Miles between sunrise and sunset:
Miles betweensunset and 2400:

② use this one if grid reached before sunrise

Miles between 0000 and sunrise:
Miles between sunrise and sunset:
③ Miles between sunset and grid:
Miles between grid and 2400:

③ use this one if grid reached after sunset

Time of fix	Type of fix	Longitude	Latitude
1. 0615 X	CELESTIAL	172-25.0W	16-44.5N.
2. 0936 X	CELESTIAL	172-07.0W	16 46.2N.
3. 1403 X	CELESTIAL + LORAN	171-37.3W	16 49.5N.
4. 1556 X	CELESTIAL + LORAN	171-24.0W	16 52.2N.
5. 1822 X	CELESTIAL	171-06.0W	16-53.5N.



November 13, 1963

Time of sunrise: 0620
Time of sunset: 1735
Miles between 0000 and sunrise: 61
Miles between sunrise and sunset: 99
Miles between sunset and 2400: 64

Position at sunrise: 17-02.0N 169-11.0W.
Position at sunset: 17-41.2N 167-36.8W

Time of fix	Type of fix	Longitude	Latitude
1. 0905 X	LORAN + CELESTIAL	169-01.0W	17-06.0N.
2. 1002 X	LORAN + CELESTIAL	168-50.5W	17-10.8N.
3. 1122 X	LORAN + CELESTAIL	168-39.5W	17-15.0N.
4. 1447 X	LORAN	168-04.3W	17-30.5N.
5. 1820 X	LORAN	167-38.0W	17-43.2N.
6 1910 X	LORAN	167-21.5W	17-46.5N.

14 0605

1219

127

-119
-8
"

+60
"
-1
-1

11111111

November 14, 1963

Time at sunrise: 0608 X
Time of sunset: 1719 X
Miles between 0000 and sunrise: 60
Miles between sunrise and sunset: ~~70~~ 127
Miles between sunset and 2400: 76

Position at sunrise: 18-21.0N 165-34.5W.
Position at sunset: 19-07.0N 163-40.8W.

Time of fix	Type of fix	Longitude	Latitude
1. 0657 X	LORAN	165-26.3W	18-22.7N.
2. 0737 X	LORAN	165 19.7W	18 25.2 N.
3. 0925 X	LORAN	165-02.5W	18-32.5N.
4. 1114 X	LORAN	164-44.2W	18-39.8N.
5. 1503 X	LORAN	164-04.5W	18-56.0N.
6. 1918 X	LORAN	163-21.0 W	19-16.8N.

November 15, 1963

Time of sunrise: 0608W
Time of sunset: 1759W
Miles between 0000 and sunrise: 46
Miles between sunrise and sunset: 112
Miles between sunset and 2400: 66

Position at sunrise: 19-57.0N 161-50.0W.
Position at sunset: 20 27.5N 155-57.8

Time of fix	Type of fix	Longitude	Latitude
1. 0744W	LORAN	161-34W	2005.0N.
2. 1111 W	LORAN	161-04.0W	20 17.2 N.
3. 1419W	LORAN	160-31.5W	20 29.0N.
4. 1711W	LORAN	160-00.0W	2027.0N.
5. 1937W	LORAN	159-31.0W	20-33.0N

November 16, 1963

Time of sunrise:
Time of sunset:
Miles between 0000 and sunrise:
Miles between sunrise and sunset: entrance to Kaneohe Harbor = Pfg
Miles between sunset and 2400:

Position at sunrise:
Position at sunset:

Time of fix	Type of fix	Longitude	Latitude
1.			
2.			
3.			
4.			
5.			

1 Nov. 1963

21-20 157-58
21-17 157-58

21.07.7	158.01.8	20 sctd	10	1015.1	80.8	72.0	63.4	67	.1	.1	110503	79.0	8.0	126
21.00	158.12	20 sctd	10	1014.3	79.3	70.9	67.1	66	.3	.3	110503	79.0	9.0	128
21.00	158.18	20 sctd	10	1013.8	79.0	71.0	67.4	67	.5	.5	110503	79.0	8.0	139
20.56.5	158.28.5	20 sctd	10	1013.9	79.0	69.0	64.1	61	.3	.3	110603	79.0	7.0	129
20.53.5	158.37	20 sctd	10	1013.8	78.9	70.9	67.3	68	.4	.4	110705	79.0	6.5	148
20.50	158.46	20 sctd	10	1014.4	78.5	71.0	67.6	69	.4	.4	110705	79.0	8.0	131
20.47	158.58	20 sctd	10	1014.8	77.8	69.9	66.2	67	.3	.3	110703	79.9	7.0	129
20.44	159.06	20 sctd	10	1015.3	77.8	69.2	65.1	65	.1	.1	110703	79.0	7.0	152
20.40	159.17	20 sctd	10	1015.6	77.5	71.0	68.1	73	.2	.2	110703	79.0	9.0	128
20.35.5	159.26	20 sctd	10	1015.7	78.0	71.2	67.7	70	.2	.2	110703	79.0	9.5	131
20.31	159.36	20 sctd	10	1015.8	78.2	72.2	69.6	75	.3	.3	110703	79.0	12.5	133
20.30	159.48	20 sctd	10	1015.9	77.8	72.5	70.2	77	.3	.3	110703	79.0	12.5 77.	145 17.
20.30	159.58.5	20 sctd	10	1015.8	78.0	72.7	70.5	77	.4	.4	110705	790	12.0	153

XXXXXXXXXXXXXX XXXXXXXX

2 November 1963

														COR&SPD
20.30	160.07	20 SCTD	10	1015.0	78.0	72.7	70.5	77	.3	.3	1100907	79.0	13.5	147
20.30	160.13	20 SCTD	10	1014.7	78.2	73.1	71.0	78	.3	.3	1100907	79.0	16.0	167
20.30	160.27	20 SCTD	10	1013.5	77.8	73.0	71.0	79	.5	.5	1000907	79.0	13.0	166
20.30	160.38	20 SCTD E90 BRKN	10	1013.5	78.0	73.0	70.9	78	.6	.6	1400907	79.0	14.0	165
28.28	160.48	20 SCTD E90 BRKN	10	1013.4	78.0	73.0	70.9	78	.6	.6	1400907	79.0	9.0	157
20.20	160.52.5	20 SCTD E90 BRKN	10	1013.4	76.6	71.7	69.6	79	.6	.6	1400907	79.0	12.0	154
20.15.5	161.02.5	20 SCTD E90Brk/BRK	10	1014.5	77.8	72.8	70.8	79	.8	.7	3300907	79.0	9.0	144
20.11	161.12	20 SCTD E90BR/BRK	10	1016.3	78.9	72.9	70.4	75	.7	.7	3300907	79.0	9.5	145
20.09	161.16.5	20SCD E120BR RWU	10	1015.8	79.1	73.3	71.4	77	.8	.8	3300907	79.0	18.0	145
20.07	161.23	RWU ALDS 20SE120B/B	10	1016.6	81.5	74.0	70.9	70	.7	.7	3300907	79.0	14.0	135
20.02	161.34	RWU ALDQS E20BR/BRK	10	1016.4	81.0	73.9	71.0	72	.8	.8	3300907	79.0	13.5	138
19.57.5	161.42	RWU E20BR 120 BRKN	10	1015.5	82.5	75.0	72.0	71	.9	.9	3300907	79.0	9.0	167
19.54	161.52.5	RWU E20B120BR	10	1014.8	81.5	74.1	71.5	72	.9	.9	3300907	79.0	13.0	145
19.49.5	162.02	RWU E20 BR 120BRK	10	1013.8	83.5	74.5	70.8	65	.8	.8	3300907	79.0	13.0	127
19.46.5	162.10	E20 BRKN 150 BRKN	10	1012.9	82.8	74.9	71.3	68	.7	.7	3300907	79.0	14.5	126
19.44	162.18	E20 BRKN 120 BRKN	10	1012.9	80.5	74.0	71.3	73	.8	.8	3300907	79.0	13.5	131
19.41	162.25	20 SC E120 BR/BRK	10	1013.5	80.0	74.1	71.7	76	.9	.9	3300907	79.0	14.0	129
19.38.5	162.33	20 SCTD E120B/BRK	10	1013.5	78.8	73.8	71.8	79	.9	.9	3300907	79.0	14.0	126
19.33	162.49	20 SCE120 BRK/BRKN	10	1014.4	79.5	73.9	71.6	77	.9	.9	3300907	79.0	14.0	131
19.31.5	162.57.5	20 SCTD E120BR/BR	10	1014.9	78.0	73.8	72.1	82	.9	.9	3300907	79.0	15.5	125
19.30	163.05.5	20 SCTD UNK BRKN	10	1014.6	77.8	73.8	72.2	83	.9	.9	3300907	79.0	14.5	136
19.28.5	163.14	20 SCTD UNK BRKN	10	1014.7	79.0	74.0	72.0	79	.9	.9	3300970	79.0	13.0	136
19.27	163.22	20 SCTD UNK BRKN	10	1014.0	79.0	74.0	72.0	79	.9	.9	3300907	79.0	15.0	131
19.25.5	163.30.5	20 SCTD UNK BRKN	10	1013.9	78.9	74.0	72.0	79	.9	.9	3300970	79.0	15.0	139

KEY: WIND DIR IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVE HEIGHTS IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS.

DATE 03, November 1963

TIME	LAT.	LONG.	PRES WEA	VIS	SLP	DRY B	WET B	DEW PT	HUM%	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND D	WIND V	SOURCE	OPS
0100	19.13	163.41	R/U ALQDS 20SCT U OVC	10	1013.5	77.9	72.5	70.2	77	1.0	.7	330 07 05	79.0	13.0	156	242	10.6
0200	19.08	163.47	20 SCT U OVC	10	1013.0	77.8	73.5	71.7	82	1.0	.8	330 07 05	79.0	13 .0	154	242	10.6
0300	19.04	163.56	20 SCT E 80 BKN / OVC	10	1013.0	78.0	72.0	72.0	75	1.0	.8	330 07 05	79.0	14.0	138	242	10.6
0400	18.59	164.06	20 SCT E 80 BKN / OVC	10	1012.8	77.9	72.3	69.9	76	1.0	.8	330 07 05	79.0	12.5	14.0	242	10.6
0500	18.55	164.14	20 SCT E 110 BKN / OVC	10	1013.0	76.3	71.3	69.1	79	1.0	.8	330 07 05	79.0	12.5	135	242	10.6
0600	18.51	164.24	20 SCT E 120 BKN U OVC	10	1013.3	78.8	72.0	69.1	72	1.0	.8	120 07 05	79.0	14.0	136	243	10.6
0700	18.50	164.31	20 SCT E 100 BKN 150 BKN U OVC	10	1014.4	80.2	73.8	71.2	74	1.0	.9	120 06 05	79.0	15 .0	147	243	10.6
0800	18.48	164.35	20 SCT E 100 BKN 150 BKN	10	1014.3	80.5	73.2	70.1	71	.7	.7	120 06 05	79.0	16.0	142	24 3	10.6
0900	18.46	164.37	20 SCT E 100 BKN 150 BKN	10	1014.4	82.5	74.5	71.2	69	.8	.8	120 06 05	79.0	17.5	145	243	10.6
1000	18.42	164.45	20 SCT E 100 BKN 150 BKN	10	1014.0	83 .0	74.9	70.9	67	.7	.6	120 06 05	79.0	17.0	140	243	10.6
1100	18.40	164.49	20 SCT E 100 BKN 150 BKN	10	1013.5	81.0	73.8	70.8	71	.7	.7	120 06 05	79.0	19.5	129	243	10.6
1200	18.35	164.58	20 SCT E 120 BKN	10	1013.0	82.8	74.8	71.6	69	.8	.8	120 06 05	79.0	19.5	122	243	10.6
1300	18.31	165.08	20 SCT E 120 BKN	10	1013.0	81.0	74.0	71.1	72	.9	.9	120 06 06	79.0	16.0	128	227	10.0
1400	18.30	165.09	20 SCT E 120 BKN	10	1012.5	79.6	73.4	70.8	74	.8	.8	120 06 06	79.0	15.0	115	243	10.6
1500	18.26	165.18	20 SCT E 120 BKN	10	1012.4	80.5	73.0	69.8	70	.8	.8	120 06 06	79.0	14.0	093	217	8.0
1600	18.22	165.28	20 SCT E 120 BKN	10	1012.6	80.0	74.0	71.5	75	.8	.8	120 06 06	79.0	10.5	127	242	10.6
1700	18.18	165.35	20 SCT 120 SCT / SCT	10	1013.0	79.0	73.2	70.8	76	.5	.5	120 06 06	79.0	12.0	124	242	10.6
1800	18.14	165.43	20 SCT 120SCT	10	1013.4	78.8	71.9	68.9	71	.3	.3	120 06 06	79.0	12.0	122	242	10.6
1900	18.09	165.52	20SCT 120SCT	10	1013.2	78.6	73.0	70.7	77	.3	.3	120 06 06	79.0	12.0	121	242	10.6
2000	18.05	166.01	20SCT 120SCT	10	1014.3	77.5	72.0	69.6	77	.3	.3	120 06 06	79.0	13.0	102	245	10.6
2100	18.01	166.10	20SCT 120SCT	10	1014.5	77.0	72.0	69.9	78	.5	.5	120 06 06	79.0	13.0	101	245	10.6
2200	17.57	166.20	20Sct 120Sct	10	1014.3	77.5	72.6	70.5	79	.3	.3	120 06 06	79.0	15.0	098	245	10.6
2300	17.52	166.30	20SCT 120SCT	10	1014.3	77.0	74.0	72.8	87	.4	.4	120 06 06	79.0	13.0	106	245	10.6
2400	17.48	166.39	20SCT E120BKN	10	1013.7	78.2	73 .8	72.0	81	.6	.6	120 06 06	79.0	13 .0	103	245	10.6

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															COURSE SPEED
17.44	166.49	20 sct E150 bkn	10	1013.4	77.9	73.9	72.3	83	.8	.8	1200804	79.0	11.5	098	245 10.6
17.43	166.58	20 sct E150 bkn	10	1013.2	77.9	74.2	72.7	84	.8	.8	1200804	79.0	12.5	125	245 10.6
17.39	167.08	20 sct E150 bkn	10	1012.9	77.8	73.9	72.3	83	.8	.8	1200804	79.0	10.5	131	245 10.6
17.36	167.18	20 sct 150 sct	10	1013.1	77.0	73.5	72.0	85	.5	.5	1200804	79.0	11.0	123	245 10.6
17.32	167.28	150 sct 20 sct	10	1012.8	77.0	73.4	72.0	85	.2	.2	1200804	79.0	14.0	113	245 10.6
17.28	167.38	20 sct 150 sct hi sct	10	1014.8	78.3	73.8	71.9	80	.3	.2	cnfsd	79.0	14.0	112	243 10.6
17.26.5	167.41.5	20 sctd hi sctd	10	1015.0	79.4	74.8	73.0	81	.3	.3	cnfsd	79.0	15.0	100	199 0.0
17.21	167.48	20 sct	10	1015.0	82.0	75.0	73.0	78	.3	.3	cnsfd	79.0	14.0	097	243 10.6
17.16	168.00	20 sct	10	1015.0	80.0	75.0	77.0	77	.2	.2	cnfsd	79.0	15.0	090	243 10.6
17.12	168.10	20 sct	10	1014.6	81.0	75.2	72.9	76	.2	.2	cnfsd	79.0	13.5	086	244 10.6
17.08	168.19	E20 bkn	10	1014.4	82.2	76.0	73.6	75	.6	.6	cnfsd	79.0	14.0	099	245 10.6
17.03	168.29	20 sct 120 sct	10	1013.2	83.6	76.0	73.1	71	.5	.5	cnfsd	79.0	13.0	094	245 10.6
17.03	168.31	20 sct E 100 bkn	10	1012.6	83.5	76.2	73.4	71	.6	.6	1200504	81.0	12.5	083	195 2.0
17.00	168.37	20 sct	10	1012.8	80.6	75.1	72.9	77	.4	.4	1200504	81.6	14.0	090	245 10.6
16.56	168.47	20 sct	10	1012.5	81.3	75.3	72.9	75	.4	.4	1200504	81.6	14.5	083	235 11.0
16.51	168.56	E20 bkn	10	1012.7	80.9	74.9	72.5	76	.6	.6	1200504	81.6	15.0	084	240 11.0
16.50	168.59	hi sct 20 sct	10	1013.1	79.8	74.0	71.6	77	.5	.5	1200504	81.6	13.5	087	070 10.6
16.49	169.02	rwu 20sct 100 sct	10	1012.9	80.5	74.5	72.1	75	.5	.5	1200504	81.6	15.5	079	240 11.0
16.45	169.12	rwu 20sct 100 sct	10	1012.9	80.8	74.9	72.2	76	.4	.4	1200504	81.0	14.0	088	240 11.0
16.40	169.20	rwu 20 sct E100bkn	10	1013.8	78.9	75.1	73.6	84	.6	.6	1200503	81.0	11.0	088	240 11.0
16.40	169.20	rwu 20sct E100bkn	10	1013.8	78.9	75.1	73.6	84	.6	.6	1200503	81.0	11.0	088	240 11.0
16.24	169.24	rwu 20sct E100bkn	10	1014.3	76.9	74.5	73.5	89	.5	.5	1200504	81.0	19.5	068	163 11.0
16.14	169.21	20 sct 100sct	10	1014.4	78.2	74.5	73.4	84	.3	.3	1200503	81.0	12.5	071	163 11.0
16.04	169.18	20 sct 100sct	10	1013.5	79.3	76.3	75.2	88	.3	.3	1200504	81.0	15.0	076	162 11.0

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																COURSE SPD
15.55	169.15	✓	20 SCTD	10	1013.3	78.8	75.7	74.5	87	.3	.3	1200503	81.0	15.5	078	163 11.0
15.56	169.16	✓	E20 BRKN	10	1012.8	78.0	75.5	74.5	89	.6	.6	1200503	81.0	14.5	082	164 11.8
15.46	169.14	✓	E20 BRKN	10	1012.0	79.2	75.5	74.1	85	.6	.6	1200503	81.0	14.0	086	163 11.0
15.36	169.12	✓	20 SCTD	10	1011.4	79.0	75.0	73.4	83	.4	.4	1200503	81.0	20.5	076	163 11.0
15.26	169.09	✓	20 SCTD	10	1011.5	77.0	73.0	71.3	83	.4	.4	1200504	81.0	21.0	074	162 11.0
15.16	169.08	✓	20SCT/SCTD	10	1012.2	78.0	74.0	72.4	84	.4	.4	1200505	81.0	20.0	070	162 11.0
15.12	169.07	✓	20 SCTD	10	1013.4	79.3	75.5	74.1	84	.5	.5	1200505	81.0	20.0	078	191 1.0
15.07	169.05	✓	20 SCTD	10	1013.8	80.5	75.1	73.0	78	.2	.2	1200506	81.0	20.5	070	162 11.0
14.58	169.00	✓	20 SCTD	10	1014.2	79.9	75.0	73.1	80	.2	.2	1200506	81.0	22.0	072	165 11.0
14.47	168.57	✓	20 SCTD	10	1014.3	80.8	75.0	72.2	76	.1	.1	1200507	81.0	20.5	073	163 12.0
14.37	168.57	✓	20 SCTD	10	1013.8	82.0	75.0	72.2	72	.1	.1	1200507	81.0	20.0	071	163 11.6
14.27	168.55	✓	20SCTD 100 SCTD	10	1013.5	82.0	75.5	72.9	74	.3	.3	0800507	81.0	19.0	070	163 11.0
14.20	168.56	✓	20SCTD 100 SCTD	10	1012.7	82.5	75.5	72.8	72	.4	.4	0800506	81.0	12.5	076	225 11.0
14.16	169.02	✓	20 SCTD 100 SCTD	10	1012.3	82.0	75.4	72.8	74	.4	.4	0800606	81.0	18.5	077	225 11.0
14.12	169.08	✓	20 SCTD 100 SCTD	10	1011.8	81.0	75.2	72.9	76	.3	.3	0800506	81.0	MANUVERING SHIP		
14.08	169.14	✓	20 SCTD 150S/-BRK	10	1011.8	81.3	75.4	73.1	76	.6	.3	0800506	81.0	16.0	079	223 11.0
14.06	169.18.5	✓	20 SCTD 150S/-BRK	10	1011.8	81.5	75.0	72.4	74	.7	.3	0800506	81.0	21.0	090	221 11.0
14.04	169.22.5	✓	20 SCTD /-SCTD	10	1011.5	80.9	73.9	71.5	73	.5	.5	0800506	81.0	24.0	070	360 11.0
14.01.5	169.27	✓	20 SCTD /-SCTD	10	1011.9	80.7	73.9	71.1	73	.3	.3	0800606	81.0	20.0	112	360 11.0
14.13	169.27	✓	20 SCTD /-SCTD	10	1013.1	80.3	74.2	71.7	75	.2	.2	0800606	81.0	17.0	105	360 11.0
14.22	169.26.5	✓	20 SCTD	10	1013.4	79.4	74.0	71.8	77	.2	.2	0800606	81.0	17.0	102	005 11.0
14.32	169.27	✓	20 SCTD	10	1013.8	80.0	74.5	72.3	77	.2	.2	0800606	81.0	24.0	103	005 12.0
14.42.5	169.26.5	✓	20 SCTD	10	1013.5	80.0	74.0	71.5	75	.2	.2	0800606	81.0	24.5	102	004 12.0
14.52.5	169.26	✓	20 SCTD	10	1013.8	79.0	74.0	72.0	79	.2	.2	080 606	81.0	20.5	109	004 12.0

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TI	LAT	LONG	PRES WEA	VIS	SLP	DRY B	WET B	DEW PT	HUM%	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	[illegible]	[illegible]	[illegible]
0[illegible]	15.12.8	169.25.3	20 SCT	10	1013.1	79.6	74.3	72.2	78	.2	.2	080 06 06	81.0	20.0	109	004	12.0
0[illegible]	15.23.7	169.24.9	20 SCT100SCT	10	1012.3	78.5	74.5	72.9	83	.3	.3	080 06 06	81.0	15.0	098	004	12.0
0[illegible]	15.33.8	169.24.7	E 15 BKN	10	1012.2	78.5	74.0	72.2	81	.6	.6	080 06 06	81.0	19.5	100	004	12.0
0[illegible]	15.44.4	169.24.5	15 SCT E 100 BKN	10	1012.0	77.5	72.1	69.8	77	.7	.7	080 06 06	81.0	21.0	096	004	12.0
0[illegible]	16.06.9	169.28.5	15 SCT E 100 BKN	10	1012.4	78.2	74.0	72.3	82	.8	.8	080 06 06	81.0	24.5	098	004 [illegible]	12.0
0[illegible]	16.04	169.32	AWU 20 SCT 100 SCT	10	1013.3	78.7	73.5	71.4	78	.3	.3	040 05 04	81.0	1[illegible].5	102	004 [illegible]	12.0
0700	16.15.2	169.30.4	20 SCT100SCT	10	1013.9	80.0	74.8	72.7	79	.4	.4	040 05 04	81.0	19.0	114	004 [illegible]	12.0
0800	16.23.3	169.29	20 SCT E 120 BKN	10	1014.6	81.0	75.2	72.9	76	.6	.6	070 05 04	81.0	21.0	102	009 35	12.0
0900	16.39.6	169.27.9	20 SCT	10	1015.2	80.7	74.0	71.2	73	.5	.5	070 05 04	81.0	20.0	096	350	12.0
1000	16.44.7	169.27.1	20 SCT	10	1015.5	83.5	75.5	72.3	69	.5	.5	070 05 04	81.0	Manuvering Ship			
1100	16.35.2	169.30.3	20 SCT	10	1014.6	85.0	76.0	72.5	66	.3	.3	070 05 04	81.0	14.5	098	197	10.6
1200	16.26	169.33.7	20 SCT	10	1014.4	80.9	74.8	72.4	75	.2	.2	070 05 04	81.0	10.5	079	198	10.6
1300	16.21.2	169.35.6	20 SCT	10	1013.5	82.0	75.0	72.2	72	.5	.5	070 06 06	81.0	13.0	081	197	10.6
1400	16.13.2	169.36.9	20 SCT UBKN	10	1013.0	82.4	75.1	72.2	71	.6	.6	070 05 06	81.0	13.0	073	198	10.6
1500	16.08.9	169.40.1	20 SCT UBKN	10	1012.3	81.4	74.0	70.9	70	.6	.6	070 05 05	81.0	14.5	072	197	10.6
1600	16.04.6	169.41.2	E 20 BKN U BKN	10	1012.4	81.8	75.1	72.5	73	.7	.7	070 05 05	81.0	Manuvering Ship			
1700	15.54.4	169.44.2	20 SCT U BKN	10	1012.9	81.9	73.9	70.6	69	.7	.7	070 05 04	81.0	18.0	112	197	0.0
1800	15.44.9	169.47.4	20 SCT/ SCT	10	1013.3	79.9	73.1	70.2	72	.3	.3	100 05 05	81.0	17.0	086	198	11.0
1900	15.35	169.51	20 SCT/ SCT	10	1013.3	79.1	72.5	69.7	73	.3	.3	100 05 05	81.0	17.0	078	197	11.0
2000	15.25	169.54.2	20 SCT/ SCT	10	1013.7	79.1	71.9	68.7	70	.2	.2	100 05 05	81.0	17.0	085	198	11.0
2100	15.17.8	169.57	20 SCT/SCT	10	1014.0	79.0	72.7	70.0	74	.2	.2	100 05 05	81.0	17.0	085	197	11.0
2200	15.07.9	170.00.2	20 SCT	10	1014.1	79.0	74.0	72.0	79	.2	.2	100 05 05	81.0	15.0	091	197	11.0
2300	14.57.9	170.04	20 SCT	10	1013.7	79.7	74.3	72.1	78	.2	.2	100 05 05	81.0	17.0	090	197	11.0
2400	14.47.5	170.07	20 SCT E 150 BKN	10	1013.3	79.9	74.8	72.8	79	.7	.7	100 05 05	81.0	16.0	088	197	11.0

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DATE	LONG	PRES WEA	VIS	SLP	DRY B	WET B	DEW PT	HUM%	TT SKY	OPA SKY	WAVES	SEA TEMP	WIND D	WIND V	WAVE D	WAVE H
14.38	170.10.4	✓ 20 sct 150sct hi thn ovc	10	1012.7	80.0	75.0	73.0	79	1.0	.3	1000505	81.0	16.0	082	197	11.0
14.23	170.14.5	✓ 20 sct 150sct hi thn ovc	10	1011.8	79.9	74.9	72.9	85	1.0	.4	1000505	81.0	15.0	079	197	11.0
14.19	170.18.2	✓ 20 sct 150sct hi thn ovc	10	1011.6	79.9	75.4	73.6	81	1.0	.5	1000504	81.0	15.5	077	197	11.0
14.10	170.20	✓ 20 sct hi sct	10	1011.3	80.0	75.5	73.8	81	.3	.2	1000505	81.0	15.5	077	197	11.0
14.14	170.29	✓ 20 sct	10	1011.3	80.3	74.6	72.3	76	.2	.3	1000505	81.0	15.5	102	045	10.6
14.19	170.24	✓ 20 sct 150 sct	10	1012.0	80.1	75.3	73.4	80	.3	.3	1000505	81.0	13.0	035	045	10.6
14.27	170.24	✓ 20 sct 150sct hi bkn	10	1012.6	80.0	76.0	74.5	83	.6	.6	1000505	81.0	17.0	094	0158	0.0
14.35	170.06	✓ 20 sct 150sct hi bkn	10	1013.0	80.8	75.2	73.0	77	.6	.6	1000505	81.0	21.0	106	013	10.4
14.42	170.00	✓ 120bkn150bkn hi bkn	10	1014.3	80.0	75.5	73.8	81	.7	.7	1000505	81.0	19.0	092	003	0.0
14.45	169.55	✓ 20sct 150 sct hi thn sct	10	1014.5	80.0	75.5	73.8	81	.5	.5	1000505	81.0	18.0	095	055	10.6
14.49	169.51	✓ 20 bkn hi bkn	10	1014.0	80.5	75.2	73.1	78	.7	.7	1000505	81.2	16.0	089	056	10.6
14.53.2	169.44	✓ 20 sct hi sct	10	1012.8	80.9	75.9	74.0	80	.5	.5	0800505	81.2	15.0	084	055	10.6
14.57	169.35	✓ 20sct hi sct	10	1012.3	80.9	74.9	72.5	76	.4	.4	0800505	81.2	18.0	096	055	10.6
15.03.5	169.23.5	✓ 20sct hi sct	10	1012.1	82.1	75.5	72.9	73	.5	.5	0800505	81.2	17.0	091	055	10.6
15.04	169.33	✓ 20sct hi sct	10	1012.2	75.5	73.6	73.6	79	.4	.4	0800505	81.2	MANEUVERING			
15.05	169.45	✓ 20 sct hi sct	10	1012.0	81.0	75.0	72.6	76	.4	.4	0800505	81.0	20.5	087	320	10.6
15.16	169.51	✓ 20sct hi sct	10	1012.7	80.8	74.9	72.6	76	.4	.4	0800505	81.0	21.0	084	320	10.6
14.23	170.04	✓ 20sct 120sct hi sct	10	1013.4	80.8	74.0	71.2	73	.4	.4	0800505	81.0	23.0	086	320	10.6
15.31	170.08	✓ 20sct 120 sct hi sct	10	1013.4	80.5	74.9	72.7	77	.5	.5	0800505	81.0	17.0	084	215	10.6
15.22	170.19	✓ 20 sct 120 sct hi sct	10	1013.8	80.4	74.9	72.7	77	.3	.3	0800505	81.0	19.0	078	215	10.6
15.15	170.26	✓ 20sct hisct	10	1014.0	80.8	75.1	72.9	77	.4	.2	0800505	81.0	16.0	086	222	10.6
15.08	170.36	✓ 20sct hi sct	10	1014.0	80.5	75.0	72.8	77	.3	.1	0800505	81.0	19.0	080	220	10.6
15.00	170.40	✓ 20sct hithn	10	1013.9	80.2	75.0	72.9	78	.3	.1	0800505	81.0	21.0	087	220	10.6
14.53	170.47	✓ 20sct hi thn sct	10	1014.0	80.0	74.3	72.0	77	.2	.2	0800505	81.0	16.5	086	222	10.6

DATE 8 November 1963

TIME	LAT.	LONG.	PRES WEA	VIS	SLP	DRY B	WET B	DEW PT	HUM%	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SWELL	SPEED
0[illegible]0	14.30	170.52	20Sc/-SCTD	10	1013.4	80.0	74.7	72.6	78	.2	.1	0700505	81.0	17.0	080	1[illegible]2	10.6
0200	14.39	170.04	20 SCTD	10	1012.6	80.0	75.0	73.0	79	.2	.2	0700505	81.0	17.0	080	222	10.6
0300	14.32	171.11	20 S TD	10	1012.5	79.0	75.0	73.0	83	.2	.2	0700505	81.0	21.0	067	221	10.6
0400	14.25	171.18	20 SCTD 150 SCTD/SCT	10	1012.8	79.7	74.3	72.1	78	.5	.5	0 00505	81.0	18.0	074	222	10.6
0500	14.17.5	171.25	20 SCTD100 BRKN/BRKN	10	1012.6	79.5	75.0	73.3	78	.7	.5	0700505	81.0	15.0	081	221	1 .6
0600	14.15	171.33	20 ScTD 100 SCTD	10	1013.0	79.7	74.4	72.3	78	.4	.4	0800505	81.0	18.0	080	222	10.6
0700	14.14	171.43	20 SCTD	10	1013.9	80.0	75.0	73.0	79	.3	.3	0800505	81.0	20.0	070	130	10.0
0800	14.08	171.41	20 SCTD	10	1014.5	81.2	75.3	73.0	76	.3	.3	0800505	81.0	17.5	081	230	9.0
0900	14.07.5	171.34	20 SCTD	10	1015.0	81.8	75.2	72.6	74	.4	.4	0800505	81.9	MANUVERING SHIP			
1000	14.02	171.51.5	20 SCTD	10	1015.4	83.5	76.6	74.0	73	.4	.4	0 00505	81.9	19.0	065	220	7.6
1100	13.53.5	171.55.5	20 SCTD	10	1014.9	82.0	75.3	73.5	73	.3	.3	0800505	82.0	1[illegible].0	069	223	9.0
1200	13.46.5	172.03	20 SCTD	10	1014.2	83.0	76.8	74.5	75	.3	.3	0800505	82.0	18.0	075	220	8.0
1300	13.41	172.09	20 SCTD	10	1013.3	83.1	76.1	73.5	72	.5	.5	0800805	82.0	16.0	079	220	8.0
1400	13.39	172.14.5	20 SCTD	10	1012.3	82.0	75.8	73.4	75	.3	.3	0800805	82.0	17.0	066-	220	8.0
1500	13.32.8	172.20	20 SCTD	10	1012.1	83.0	75.9	73.1	72	.3	.3	0800805	82.0	17.0	066	220	8.0
1600	13.28	172.25	20 SCTD	10	1012.0	82.9	76.2	73.6	74	.2	.2	0800805	82.0	17.5	064	220	10.6
1700	13.21	172.30	20 SCTD	10	1012.4	82.5	75.5	72.8	72	.2	.2	0800805	82.0	18.0	076	220	11.(
1800	13.25	172.37	20 SCTD	10	1012.6	81.2	75.7	73.6	78	.2	.2	0800805	82.0	21.0	080	315	10.6
1900	13.36	172.45.3	20 SCTD	10	1012.1	81.2	75.2	72.8	75	.3	.3	0800705	82.0	24.5	090	314	100
2000	13.44	172.53	20 SCTD	10	1013.5	81.1	76.0	74.1	79	.3	.3	0800705	82.0	23.0	084	315	11.1
2100	13.51	173.00	20 S TD	10	1014.0	81.0	76.0	74.1	80	.1	.1	0800705	82.0	21.5	080	316	10.6
2200	13.58.5	173.00	20 SCTD	10	1014.4	81.0	75.7	73.6	78	.2	.2	0800606	82.0	15.5	078	046	10.6
2300	14.05.5	172.525	20 SCTD	10	1014.0	80.0	75.5	73.8	81	.2	.2	0800606	82.0	19.0	100	046	10.6
2400	14.12	172.45	20 SCTD	10	1013.2	79.7	75.1	73.3	81	.3	.3	0800607	81.0	19.5	092	046	10.6

09, November 1963

															COURSE	SPEED
14.19	172.41	20 SCT	10	1012.8	80.2	74.2	71.8	76	.1	.1	08 06 07	81.0	20.0	099	046	10.6
14.25	172.35	CLEAR	10	1012.3	80.1	73.3	70.4	72	0	0	08 06 07	81.0	18.0	087	046	10.6
14.31	172.29	20 SCT	10	1012.0	80.0	73.4	70.6	73	.1	.1	08 06 07	81.0	20.0	082	046	10.6
14.37	172.23	20 SCT	10	1012.1	79.5	73.2	70.6	75	.2	.2	08 06 07	81.0	19.0	119	046	10.6
14.43	172.17	20 SCT	10	1012.8	79.0	73.0	70.5	74	.2	.2	08 06 07	81.0	20.0	084	046	10.6
14.48	172.11	20 SCT	10	1013.8	80.0	72.3	68.9	69	.2	.2	08 06 05	81.0	21.0	092	047	11.0
14.53	172.07	20 SCT	10	10143	80.1	72.9	69.8	71	.3	.3	07 06 05	81.0	18.5	074	170	0.0
14.55	172.05	20 SCT	10	1014.9	82.0	74.0	70.7	68	.3	.3	07 06 05	.81.0	17.0	080	046	9.0
15.00	172.00	RWU 20 SCT	10	1015.2	82.2	73.9	70.5	68	.4	.4	07 06 06	81.0	19.5	086	046	9.0
15.05	171.54	20 SCT	10	1015.2	81.8	72.7	68.8	65	.2	.2	07 06 06	81.0	21.5	091	046	9.0
15.11	171.48	20 SCT	10	1015.6	81.9	73.2	69.5	66	.1	.1	07 06 06	81.0	20.0	092	046	9.0
15.17	171.42	20 SCT	10	1014.3	80.5	72.7	69.4	69	.2	.2	07 06 06	81.0	19.0	097	047	9.0
15.22	171.38	20 SCT	10	1013.3	81.0	74.0	71.1	72	.5	.5	07 06 06	81.0	19.0	097	045	9.0
15.26	171.35	20 SCT	10	1012.5	81.8	72.2	68.0	63	.4	.4	09 05 06	81.0	17.0	092	048	9.0
15.31	171.31	20 SCT	10	1012.3	81.3	72.1	68.0	64	.3	.3	09 05 05	81.0	17.0	099	048	9.0
15.35	171.27	20 SCT	10	1012.5	80.8	72.5	68.9	66	.4	.4	09 05 05	81.0	11.0	090	048	9.0
15.39	171.23	20 SCT	10	1012.9	80.2	72.5	69.2	69	.4	.4	09 06 06	81.0	15.5	071	049	9.0
15.44	171.19	20 SCT	10	1012.9	80.2	72.2	68.7	68	.4	.4	09 06 06	81.0	13.0	071	050	9.0
15.51	171.14	20 SCT	10	1013.1	79.1	71.1	67.5	67	.4	.4	06 06 06	81.0	15.0	072	049	9.0
15.56	171.08	20 SCT	10	1014.2	79.2	71.2	67.6	68	.3	.3	06 06 06	81.0	15.0	077	055	9.0
16.01	171.02	20 SCT	10	1014.4	79.1	70.5	66.5	65	.2	.2	06 06 06	81.0	15.0	082	054	9.0
16.06	170.55	20 SCT	10	1014.7	79.0	71.0	67.4	67	.3	.3	06 06 06	81.0	15.0	067	055	9.0
16.11	170.49	20 SCT	10	1013.8	79.0	71.6	68.3	69	.3	.3	06 06 06	81.0	14.0	075	055	9.0
16.16	170.43	20 SCT	10	1013.4	79.8	70.8	66.7	64	.1	.1	06 06 06	81.0	15.0	069	055	9.0

(DET): WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES
SEA WAVE PERIOD IN SECONDS; WAVES HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

10 NOVEMBER, 1963

															COURSE&SPD
16.16	170.40	20sct	10	1012.8	80.4	71.9	68.1	66	.2	.2	0600606	81.0	13.0	066	055 9.0
16.22	170.44	20sct	10	1013.3	79.0	72.3	69.4	72	.3	.3	0600606	81.0	18.5	058	317 9.0
16.28	170.49	20sct 120sct	10	1011.8	78.9	72.0	69.0	71	.3	.3	0600606	81.0	18.0	059	317 9.0
16.34	170.55	20sct 120sct	10	1011.7	78.8	72.7	70.1	75	.3	.3	0600804	81.0	18.0	059	317 9.0
16.40	171.00	20sct	10	1012.0	78.5	71.4	68.2	70	.2	.2	0600804	81.0	18.0	059	317 9.0
16.46	171.05	20sct	10	1012.2	78.0	70.7	68.3	71	.3	.3	0600804	81.0	16.0	065	317 9.0
16.51	171.10	20sct	10	1012.0	78.7	71.1	67.9	69	.4	.4	0600606	81.0	15.0	047	157 0.0
16.50	171.12	20sct	10	1014.1	79.1	71.8	68.6	70	.3	.3	0600606	81.0	15.0	049	223 10.6
16.42	171.20	20sct	10	1014.5	81.8	72.5	68.5	64	.3	.3	0600404	81.0	15.0	044	223 10.6
16.34	171.29	20sct	10	1014.0	81.5	71.2	66.5	60	.4	.4	0600404	81.0	15.0	061	223 10.6
16.26	171.38	20sct 120sct	10	1013.4	82.1	72.5	68.3	62	.4	.4	0600404	81.0	16.0	056	223 10.6
16.18	171.46	20sct hisct	10	1012.3	80.9	72.5	68.8	67	.4	.4	0600404	81.0	16.5	062	223 10.6
16.13	171.51	20sct 60kn	10	1012.2	81.9	72.5	68.4	64	.6	.6	0600404	81.0	16.0	041	225 10.6
16.09	171.56	E20bkn hibkn	10	1011.5	80.3	73.1	70.1	71	.8	.8	0600405	81.0	16.0	045	225 10.6
16.04	172.02	E20bkn120 bknhibkn	10	1010.4	78.7	74.7	73.1	83	.7	.7	0600405	81.0	15.0	096	224 10.6
15.59	172.06	E20bkn120 bknhibkn	10	1010.4	79.8	74.0	71.6	76	.8	.8	0600405	81.0	13.5	068	223 10.6
15.54	172.13	20sctE120 bknhibkn	10	1011.2	78.1	74.1	72.5	83	.8	.8	0600405	81.0	15.0	063	222 10.6
15.43	172.25	binovc E 20bkn120ov	10	1011.5	79.7	75.0	73.1	80	1.0	1.0	0600404	81.0	14.0	096	223 10.6
15.36	172.33	20sctE120 bknhibkn	10	1012.1	79.1	75.0	73.0	83	.9	.9	0600404	81.0	11.0	081	222 10.6
15.28	172.40	R-E20bkn 120ovc	10	1012.8	76.2	73.5	72.4	88	1.0	1.0	0600404	81.0	16.5	074	222 10.6
15.21	172.47	R-E20bkn 120ovc	5	1012.8	78.8	73.2	74.8	83	1.0	1.0	0600404	81.0	14.5	062	222 10.6
15.14	172.54	R- E20bkn	10	1013.0	77.8	72.5	70.2	77	.8	.8	0600404	81.0	21.0	094	222 10.6
15.07	173.02	E20bkn	10	1012.8	78.5	74.0	72.2	81	.6	.6	0600404	81.0	14.0	050	222 10.6
15.00	173.09	E20bkn	10	1012.5	79.0	73.0	70.5	75	.6	.6	0600404	81.0	16.0	060	223 10.6

11 November 1963

																COURSE SPD
15.16	173.4		E20 BRKN	10	1011.3	76.3	74.0	73.1	90	1.0	.9	0600404	81.0	10.5	123	222 10.6
14.46	173.23	✓	E15BR15BR 20BR/OV/R-	5	1010.8	74.5	72.6	72.1	92	1.0	1.0	0600404	81.0	12.5	092	223 10.6
14.39	173.30	✓	E15BR15BR 20BR/BR/RWU	7*	1010.5	76.2	73.0	71.7	86	.8	.8	0600404	81.0	8.0	115	222 10.6
14.33	173.37	✓	E15BR30BR 80BR/OV/R-	4	1010.5	73.8	72.0	71.2	92	1.0	1.0	0600404	81.0	10.0	071	223 10.6
14.28	173.43	✓	E15BR80BR /OVC R	3	1011.7	73.6	72.3	71.6	94	1.0	1.0	0600404	81.0	14.5	079	318 8.0
14.37	173.46	✓	E15BR80BR /-OV RWU	10**	1010.5	74.3	72.5	71.7	92	1.0	.8	0600404	81.0	10.0	078	318 8.0
14.36	173.49	✓	15SCT80BR /-BRKRWU	10	1010.9	78.1	73.2	71.2	79	.8	.7	0600404	81.0	MANUVERING		MANUVERING
14.37	173.52	✓	15SCE80BR HI TH BRK	10	1011.6	79.9	73.5	70.8	74	.9	.8	0600404	81.0	17.0	063	316 10.6
14.46	174.06	✓	20 SCTD E80 BRKN	10	1012.3	80.3	73.0	69.9	70	.9	.9	0600404	81.0	15.0	075	316 10.6
14.54	174.12	✓	20 SCTD E100B/-BR	10	1012.5	81.9	73.9	70.6	69	.7	.7	0600404	81.0	11.5	069	316 10.6
15.00	174.18	✓	20 SCTD E100 BRKN	10	1011.0	81.2	74.2	71.3	72	.7	.7	0600404	81.0	14.5	076	316 10.6
15.06	174.14	✓	20 SCTD 120 SCTD	10	1010.9	80.5	74.0	71.3	73	.3	.3	0600404	81.0	8.0	075	047 10.6
15.13	174.08	✓	E20 BRKN	10	1009.9	80.5	74.0	71.3	73	.6	.6	0600804	81.0	11.0	074	047 10.6
15.16	174.04	✓	20 SCTD 120 SCTD	10	1009.3	80.8	73.4	70.3	70	.4	.4	0600804	81.0	12.5	100	047 10.6
15.21	173.59	✓	20 SCTD	10	1009.0	80.1	72.0	68.4	67	.2	.2	061003	81.0	10.0	095	047 10.6
15.26	173.54	✓	20 SCTD	10	1009.3	81.3	72.3	68.4	65	.2	.2	0601005	81.0	6.5	081	120 10.6
15.30	173.49	✓	20 SCTD	10	1009.7	79.8	72.3	69.1	69	.2	.2	0601005	81.0	6.5	078	090 10.0
15.36	173.43	✓	20 SCTD	10	1010.2	80.0	73.0	70.1	72	.3	.3	0600806	81.0	10.5	087	045 10.6
15.43	173.36	✓	20 SCTD	10	1010.0	78.2	72.4	69.9	75	.3	.3	0600806	81.0	9.5	090	048 10.6
15.49	173.29	✓	20 SCTD	10	1010.3	78.0	72.8	70.6	78	.3	.3	060806	81.0	8.5	090	046 10.6
15.55	173.22	✓	20 SCTD	10	1011.5	78.2	72.6	70.2	76	.4	.4	0600806	81.0	9.5	090	046 10.6
16.01	173.16	✓	20 SCTD	10	1011.4	79.4	74.9	73.1	81	.3	.3	0600806	81.0	13.5	092	046 10.9
16.07	173.09	✓	20 SCTD	10	1011.4	79.2	73.2	70.7	75	.3	.3	0600806	81.0	13.5	093	046 10.6
16.14	173.03	✓	20 SCTD	10	1011.2	78.5	73.5	71.4	79	.2	.2	0600306	81.0	11.0	091	046 10.6

* VIS LMR SE-S-SW

** VIS LMR W-SE

TIME (EST); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

12, November 1963

		PRES MSA	VIS	SLP	DRY B	WET B	DEW PT	HUM%	TN SKY	OBA SKY	WAVES	SEA TMP	WIND S	WIND	COURSE	SPEED
16.18	172.58 ✓	20 SCT	10	1010.7	79.7	74.7	72.7	79	.2	.2	06 08 06	81.0	14.0	086	046	10.6
16.24	172.52 ✓	20 SCT	10	1010.2	78.4	73.9	72.1	81	.2	.2	06 08 06	81.0	9.0	062	046	10.6
16.29	172.46 ✓	R- 20SCT	10	1009.7	77.0	74.0	72.8	82	.5	.5	06 08 06	81.0	14.0	073	046	10.6
16.35	172.40 ✓	20 SCT	10	1009.6	76.5	73.5	72.3	87	.3	.3	06 08 06	81.0	11.5	055	046	10.6
16.41	172.34 ✓	20 SCT	10	1009.8	77.5	73.9	72.4	84	.2	.2	06 08 06	81.0	12.0	055	046	10.6
16.44	172.27 ✓	RWU 20SCT E 100 BKN	10	1010.2	78.8	73.3	71.0	77	.6	.6	06 08 05	81.0	11.0	051	090	10.6
16.44	172.29 ✓	15 SCT 20 SCT100BKN	10	1011.2	79.0	74.9	73.3	82	.3	.3	06 08 05	81.0	15.0	074	145	0.0
16.45	172.17 ✓	20 SCT30 SCT100BKN	10	1012.6	80.8	74.8	72.4	76	.3	.3	06 08 04	81.0	12.0	088	083	10.6
16.45	172.10 ✓	20 SCT 30 SCT100SCT	10	1013.3	81.5	75.8	73.6	77	.3	.3	06 08 04	81.0	13.5	071	155	8.0
16.46	172.02 ✓	RW- E20 BKN100BKN	10	1013.3	80.8	75.5	73.4	78	.7	.7	0600804	81.0	16.0	106	083	11.0
16.46	171.54 ✓	RW E20BKN 100 BKN	10	1012.4	76.9	74.5	73.6	90	.7	.7	06 08 04	81.0	11.5	126	083	11.0
16.47	171.46 ✓	E 20 BKN 100 BKN	10	1011.3	76.8	74.7	73.9	90	.6	.6	06 08 04	81.0	16.0	100	083	10.6
16.48	171.41 ✓	20 SCT 100 SCT	10	1010.9	81.0	73.5	70.3	70	.5	.5	06 08 05	81.0	15.5	117	083	10.6
16.49	171.37 ✓	20 SCT 100 SCT	10	1010.0	81.2	72.1	68.1	64	.4	.3	06 08 05	81.0	15.5	117	083	10.6
16.51	171.30 ✓	20 SCT 100 SCT	10	1009.6	80.1	73.5	70.8	73	.3	.3	06 08 05	81.0	17.0	150	088	10.6
16.52	171.24 ✓	20 SCT 100 SCT	10	1010.4	80.5	73.2	70.1	71	.3	.3	06 08 05	81.0	14.0	105	087	10.6
16.52	171.16 ✓	20 SCT	10	1011.2	80.0	73.8	71.2	74	.2	.2	06 08 05	81.0	14.5	105	087	10.6
16.53	171.09 ✓	20 SCT	10	1011.3	79.7	72.0	68.6	69	.2	.2	06 05 05	81.0	14.0	107	087	10.6
16.54	170.59 ✓	20 SCT	10	1011.9	79.0	73.0	70.5	75	.2	.2	06 05 05	81.0	13.0	104	087	10.6
16.54	170.52 ✓	20 SCT	10	1011.9	79.3	73.0	70.3	74	.2	.2	06 05 05	81.0	12.0	100	087	10.5
16.55	170.43 ✓	20 SCT	10	1012.3	80.0	72.9	69.9	71	.3	.3	06 05 05	81.0	12.0	094	085	10.6
16.56	170.32 ✓	20 SCT	10	1012.5	79.7	72.0	68.6	69	.2	.2	06 05 05	81.0	14.0	097	085	10.6
16.56	170.24 ✓	20 SCT	10	1012.3	79.4	73.4	70.9	75	.2	.2	06 05 05	81.0	13.0	095	085	10.6
16.57	170.15 ✓	20 SCT	10	1011.9	79.2	73.3	71.6	78	.2	.2	06 05 05	81.0	14.0	092	085	11.0

KEY; WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES
; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

13 November, 1963

		TRUE WEA	VIS	SLP	DRY B	WET B	DEW PT	HUM%	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	COURSE&SPEED	
16.58	170.06	20sct	10	1011.5	79.6	74.4	72.3	78	.2	.2	0600805	81.0	12.5	091	084	10.6
16.58	169.56	20sct	10	1011.0	79.0	74.5	72.7	81	.3	.3	0600805	81.0	13.0	086	086	10.6
16.59	169.49	20sct	10	1010.8	78.5	74.8	73.3	84	.3	.3	0600805	81.0	12.5	119	085	10.6
17.00	169.39	rwu E20 bkn	8	1010.6	77.1	73.9	72.6	86	.6	.6	0600805	81.0	15.0	133	084	10.6
17.01	169.31	20sct	10	1010.7	78.2	74.5	73.0	84	.4	.4	0600805	81.0	15.0	126	085	10.6
17.02	169.21	8sctE15bk 40bk80bk/	5	1011.0	75.0	73.5	72.9	93	.9	.9	0600805	81.0	16.0	101	085	10.6
17.03	169.06	bkR- 15sctE70bk 90bknrwu	8	1013.5	75.2	73.0	72.1	90	.8	.8	0600805	81.0	15.0	119	085	10.6
17.01	169.04	20sct E100bkn	10	1013.0	79.0	75.1	73.6	84	.7	.7	080605	81.0	MANUVERING			
17.06	169.01	20sct 100sct	10	1013.8	78.0	75.0	73.8	87	.4	.4	0600805	81.0	9.0	105	068	12.0
17.11	168.51	20sct 100sct	10	1013.6	81.2	75.0	72.5	75	.4	.4	0600805	81.0	20.0	137	068	12.0
17.15	168.39	20sct	10	1012.9	81.0	74.0	71.1	72	.4	.4	0600805	81.0	15.5	117	067	12.0
17.17	168.32	E20bkn	10	1012.2	80.3	74.7	72.5	77	.6	.6	0600805	81.0	14.0	110	066	12.0
17.21	168.24	20sct	10	1011.3	80.0	71.5	74.0	74	.5	.5	0600605	81.0	13.0	117	067	12.0
17.26	168.14	20sct	10	1010.7	79.4	74.0	71.8	77	.5	.5	0600605	81.0	14.5	1.21	070	12.0
17.35	168.00	20sct	10	1010.8	80.0	73.5	71.4	75	.5	.5	0606605	81.0	14.5	120	070	12.0
17.35	167.53	20sct	10	1011.3	80.2	74.2	71.8	75	.5	.5	0800605	81.0	15.5	110	071	12.0
17.39	167.45	20sct	10	1011.2	79.3	74.5	72.6	80	.6	.5	0.00605	81.0	15.0	118	071	12.0
17.42	167.32	20sct E100bkn	10	1012.4	79.8	73.1	70.3	72	.6	.6	0800605	81.0	19.0	113	071	11.8
17.46	167.22	20sct	10	1012.4	79.8	73.5	70.9	74	.1	.1	0800605	81.0	20.5	106	071	11.8
17.49	167.14	20sct	10	1013.2	79.2	73.2	70.4	73	.2	.2	0800650	81.0	24.0	105	071	11.8
17.53	167.04	20sct	10	1013.6	79.7	73.2	70.5	73	.3	.3	0800605	81.0	21.5	106	071	11.8
17.57	166.54	20sct	10	1013.4	79.6	72.5	69.4	71	.3	.3	0800605	81.0	21.5	106	071	11.8
18.01	166.44	20sct	10	1013.6	78.8	72.8	70.3	75	.1	.1	0800806	81.0	19.5	104	071	11.8
18.04	166.34	20sct	10	1013.5	78.0	72.3	69.9	76	.2	.2	0800606	81.0	17.0	120	071	12.0

...KEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES
...S; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

WTS 14 November 1963

TIME	LAT	LONG.	PRES WEA	VIS	SEA	DRY B	WET B	DEW PT	HUM%	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	GUST	SPEED
0100	18.08	166.24	20 SCTD	10	1 13.1	78.3	72.0	69.0	72	.1	.1	0800606	81.0	19.0	112	070	12.0
0200	18.01	166.14	20 SCTD	10	1012.4	76.5	71.5	68.4	71	.1	.1	0800606	81.0	17.5	112	071	12.0
0300	18.05	166.01	20 SCTD	10	1012.3	78.6	71.4	68.2	83	.1	.1	0800606	81.0	17.0	110	070	12.0
0400	18.10	165.54	20 SCTD	10	1012.0	77.1	71.1	68.5	75	.1	.1	0800606	81.0	15.0	105	071	12.0
0500	18.14	165.45	20 SCTD	10	1012.0	76.0	71.0	68.8	78	.1	.1	08006 6	81.0	15.0	110	070	12.0
0600	18.18	165.35	20 SCTD	10	1013.4	77.8	71.1	68.1	72	.5	.	0800806	81.0	13.5	09[illegible]	070	12.0
0700	18.22	165.26	20 SCTD	10	1014.6	79.8	72.7	69.7	71	.5	.5	0800604	80.1	14.0	111	070	12.0
0800	18.27	165.16	20 SCTD	10	1015.3	79.5	71.2	67.5	67	.5	.5	0800604	80.1	15.5	104	065	12.0
0900	18.31	165.08	20 SCTD	10	1016.0	80.0	71.5	67.7	66	.4	.4	0800604	81.0	16.0	098	067	12.0
1000	18.35	164.58	20 SCTD	10	1016.1	80.1	70.6	66.2	62	.3	.3	0800604	81.0	16.0	109	067	12.0
1100	18.39	164.47	20 SCTD	10	1015.4	80.6	71.0	66.6	62	.2	.2	0800604	81.0	15.0	114	067	12.0
1200	18.43	164.37	20 SCTD	10	1014.8	79.5	71.0	67.1	66	.2	.2	0800604	81.0	14.5	104	067	12.0
1300	18.48	164.26	20 SCTD	10	1012.6	79.0	71.2	67.7	68	.1	.1	0800604	81.0	14.5	104	067	12.0
1400	18.52	164.16	20 SCTD	10	1013.2	79.0	70.9	67.2	67	.1	.1	0800604	81.0	14.5	092	067-	12.0
1500	18.56	164.05	20 SCTD=	10	1013.3	78.9	70.3	66.3	65	.1	.1	0800804	81.0	13.5	086	067	12.0
1600	19.01	163.56	20 SCTD	10	1013.5	78.9	70.3	69.4	72	.1	.1	0800804	81.0	13.5	086	067	12.0
1700	19.04	163.45	20 SCTD	10	1013.6	78.0	70.5	67.1	69	.2	.2	0800404	81.0	15.0	101	066	12.0
1800	19.10	163.35	20 SCTD	10	1013.5	77.8	70.8	67.7	71	.5	.5	0800404	81.0	14.0	096	068	12.0
1900	19.15	163.25	E20 BRKN	10	1015.0	78.0	72.0	69.4	75	.6	.6	0800404	81.0	15.5	096	067	12.0
2000	19.20	163.14	20 SCTD	10	1015.5	78.0	71.5	68.6	73	.4	.4	0800404	81.0	15.0	093	067	12.0
2100	19.24	163.04	E20 BRKN 80 BRKN R-	5	1016.0	74.0	69.0	66.7	78	.8	.8	0800404	81.0	8.0	107	067	12.0
2200	19.29	162.54	E20 BRKN	10	1015.5	77.0	71.9	69.7	78	.6	.6	0800404	81.0	16.0	097	067	12.0
2300	19.34	162.44	20 SCTD	10	1015.5	78.0	70.0	66.3	67	.5	.5	0800404	81.0	18.0	100	067	12.0
2400	19.37	162.33	20 SCTD	10	1015.1	77.3	69.5	65.8	68	.2	.2	0800404	81.0	18.5	097	067	12.0

15, November 1963

		CLDS & AMT	VIS	SLP	DRY B	WET B	DEW PT	HUM%	TL SKY	OPA SKY	WATER	SEA TEMP	WIND S	WIND D	COURSE	SPEED
19.37*	162.33	20 SCT	10	1015.1	77.3	69.5	65.8	68	.2	.2	08 04 04	81.0	18.5	097	067	12.0
19.42	162.24	20 SCT	10	1014.7	77.0	70.0	66.7	71	.2	.2	08 05 05	81.0	15.5	098	067	12.0
19.46	162.15	20 SCT	10	1014.5	77.0	68.0	63.5	63	.2	.2	08 05 05	81.0	15.5	090	360	0.0
19.48	162.11	20 SCT	10	1014.3	77.1	67.4	62.4	60	.1	.1	08 05 05	81.0	12.0	085	067	12.0
19.52	162.01	20 SCT	10	1014.8	76.9	67.1	62.0	60	.2	.2	08 05 05	81.0	12.5	085	066	12.0
19.55	161.53	20 SCT 100 SCT	10	1015.1	77.3	69.0	66.0	68	.3	.3	08 06 05	81.0	11.0	099	069	12.0
19.59	161.42	20 SCT 100 SCT	10	1015.6	77.1	68.1	63.6	63	.3	.3	35 08 05	81.0	14.5	100	067	12.0
20.07	161.30	RWU 20 SCT100SCT	10	1016.2	78.6	70.8	67.3	68	.3	.3	35 08 05	81.0	20.5	089	067	12.0
20.09	161.25	20 SCT E 100 KN	10	1016.8	78.5	70.3	66.5	66	.6	.6	35 0805	81.0	20.0	086	067	12.0
20.13	161.16	20 SCT 100 SCT	10	1016.4	78.0	69.5	65.5	72	.4	.4	35 08 05	81.0	19.0	090	060	12.0
20.17	161.06	20 SCT 100 SCT	10	1016.4	77.8	69.4	65.4	65	.3	.3	09 06 06	81.0	19.0	095	066	12.0
20.20	160.56	20 SCT 100 SCT	10	1016.0	77.0	69.8	66.4	69	.3	.3	09 06 06	81.0	15.0	095	070	12.0
20.25	160.44	E 20 KN	10	1016.2	78.0	70.0	66.3	67	.6	.6	09 06 06	81.0	15.5	100	066	12.0
20.28	160.36	20 SCT	10	1014.5	77.8	69.9	66.2	67	.3	.3	09 07 05	79.4	16.0	100	067	12.0
20.27	160.22	20 SCT	10	1014.5	77.8	68.3	63.6	61	.3	.3	09 07 05	79.4	14.0	097	090	12.0
20.28	160.17	CLEAR**	10	1014.4	77.5	67.0	61.5	57	.0	.0	09 07 05	79.4	14.0	108	090	12.0
20.27	160.00	CLEAR	10	1014.1	78.0	68.0	62.9	59	.0	.0	09 07 05	79.0	14.0	071	090	12.0
20.28	159.51	20 SCT	10	1014.1	76.1	68.7	65.1	69	.1	.1	09 07 05	79.0	15.0	074	080	12.0
20.30	159.41	20 SCT	10	1013.8	76.6	69.6	66.3	70	.1	.1	09 07 05	79.0	17.0	075	080	12.0

* The 14/2400 Ob is the same as the 15/0100 ob due to changing to Wiskey time zone.

** Few Cu.

...SEL); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
...S; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

Nam Wind Speed
Minutes After Sunrise

INSIDE	5	7	8	9	10	11 0700	12	Tot	Avg
0-60	20.0	19.0	18.0	21.0	16.0	—	15.0	109.0/6	18.2
60-120	20.0	17.0	20.0	18.5	15.0	17.0	12.0	119.5/7	17.1
120-180	20.5	21.0	17.5	17.0	15.0	15.0	13.5	119.5	17.1
180-240	23.0	19.0	—	19.5	15.0	11.5	16.0	103.0/6	17.2
240-300	21.5	18.0	19.0	21.5	15.0	14.5	11.5	120.0	17.1
300-360	20.0	16.0	18.0	20.0	16.0	8.0	16.0	114.0	16.3
360-420	19.0	15.0	18.0	19.0	16.5	11.0	15.5	114.0	16.3
420-480	12.5	18.0	16.0	19.0	16.0	12.5	15.5	109.5	15.6
480-540	18.5	17.0	17.0	17.0	16.0	10.0	17.0	112.5	16.1
540-600	—	—	17.0	17.0	15.0	6.5	14.0	69.5/5	13.9
600-660	16.0	20.5	17.5	11.0	13.5	6.5	14.5	99.5	14.2

OUTSIDE	2 0700	3	4	6	13	14	15	Tot	Avg
0-60	9.0	14.0	14.0	19.5	16.0	13.5	11.0	97.0	13.9
60-120	9.5	15.0	15.0	19.0	15.0	14.0	14.5	102.0	14.6
120-180	18.0	16.0	14.0	21.0	—	15.5	20.5	105.0/6	17.5
180-240	14.0	17.5	15.0	20.5	9.0	16.0	20.0	111.5	15.9
240-300	13.5	17.0	13.5	—	20.0	16.0	19.0	99.0/6	16.5
300-360	9.0	19.5	14.0	14.5	15.5	15.0	19.0	106.5	15.2
360-420	13.0	19.5	13.0	10.5	14.0	14.5	15.0	99.5	14.2
420-480	13.0	16.0	12.5	13.0	13.0	14.5	15.5	97.5	13.9
480-540	14.5	15.0	14.0	13.0	14.5	14.5	16.0	101.5	14.5
540-600	13.5	14.0	14.5	14.5	14.5	13.5	14.0	98.5	14.1
600-660	14.0	10.5	15.0	—	15.5	13.5	14.0	82.5/6	13.8

Nov — TEMP Min After Sunrise

N-1

Inside	1	5	7	8	9	10	11 @700	12 @700	TOT	AVG
0-60		78.0	80.1	79.7	80.0	78.0	78.1	79.0	552.9	78.9
60-120		79.3	80.0	80.0	80.1	78.7	79.9	80.6	558.8	79.8
120-180		80.5	80.8	81.2	82.0	79.1	80.3	81.5	565.4	80.8
180-240		79.9	80.0	81.8	82.2	81.6	81.9	80.8	568.4	81.2
240-300		80.8	80.0	83.5	81.8	81.5	81.2	76.9	565.7	80.8
300-360		82.0	80.5	82.0	81.9	82.1	80.5	76.8	565.8	80.8
360-420		82.0	80.9	83.0	80.5	80.9	80.5	81.0	568.9	81.3
420-480		82.5	80.9	83.1	81.0	81.9	80.8	81.2	571.4	81.6
480-540		82.0	82.1	82.0	81.8	80.3	80.1	80.1	568.4	81.2
540-600		81.0	75.5	83.0	81.3	78.7	81.3	80.5	561.3	80.2
600-660		81.3	81.0	82.9	80.8	79.8	79.8	80.0	565.6	80.8

Outside	2 @700	3	4	6	13	14	15	TOT	AVG
0-60		77.8	78.8	78.3	78.1	75.0	77.8	77.3	543.7	77.7
60-120		78.9	80.2	79.4	80.0	75.2	79.8	77.1	550.6	78.7
120-180		79.1	80.5	82.0	81.0	79.0	79.5	78.6	559.7	80.0
180-240		81.5	82.5	80.0	80.7	78.0	80.0	78.5	561.2	80.2
240-300		81.0	83.0	81.0	83.5	81.2	80.1	78.0	567.8	81.1
300-360		82.5	81.0	82.2	85.0	81.0	80.6	77.8	570.1	81.4
360-420		81.5	82.8	83.6	80.9	80.3	79.5	77.0	565.6	80.8
420-480		83.5	81.0	83.5	82.0	80.0	79.0	78.0	567.0	81.0
480-540		82.8	79.6	80.6	82.4	79.4	79.0	77.8	561.6	80.2
540-600		80.5	80.5	81.3	81.4	80.0	78.9	77.8	560.4	80.1
600-660		80.0	80.0	80.9	81.8	80.2	76.9	77.5	559.3	79.9

Non-Hum %
Minutes after Sunrise

N=7

INSIDE	5	7	8	9	10	11 0700	12 0700	TOT	AVG
0-60	84	80	78	69	71	79	82	543	77.6
60-120	84	83	79	71	69	74	76	536	76.6
120-180	78	77	76	68	70	70	77	516	73.7
180-240	80	81	74	68	64	69	78	514	73.4
240-300	76	81	73	65	60	72	90	517	73.9
300-360	72	78	73	66	62	73	90	514	73.4
360-420	74	80	75	69	67	73	70	508	72.6
420-480	72	76	72	72	64	73	64	490	70.0
480-540	74	73	75	63	71	67	73	496	70.9
540-600	76	79	72	64	63	65	71	510	72.9
600-66	76	76	74	66	76	69	74	511	73.0

OUTSIDE	2 0700	3	4	6	13	14	15	TOT	AVG
0-60	79	72	80	78	93	72	68	542	77.4
60-120	75	74	81	79	90	71	63	533	76.1
120-180	77	71	78	76	84	67	68	521	74.4
180-240	70	69	77	73	87	66	66	508	72.6
240-300	72	67	76	69	75	62	72	493	70.4
300-360	71	71	75	66	72	62	65	482	68.9
360-420	72	69	71	75	77	66	69	499	71.3
420-480	65	72	71	72	74	68	67	489	69.9
480-540	69	74	77	71	77	67	67	501	71.6
540-600	73	70	75	70	75	65	61	489	69.9
60-360	76	75	76	73	75	72	57	504	72.0

November 1963 Locatify

DATE	Miles from OAHU 1200	2400	MILES From v direct 1200	2400	SR	55	MILES SR-55	TRAVELED DAILY
1	12 S	119 wsw	724 ENE	606 ENE	—	1800	70	58
2	220 wsw	330 wsw	504 ENE	394 ENE	0637	1716	97	122
3	428 wsw	535	296 ENE	189 ENE	0558	1730	85	115
4	659 wsw	731 wsw	65 ENE	42 SSE	0612	1745	83	118
5	791 wsw	786 wsw	142 SSE	111 S	0613	1748	102	105
6	740 wsw	813 wsw	17 S	125 S	0619	1748	98	133
7	797 wsw	857 wsw	112 S	132 SSW	0617	1749	137	121
8	943 wsw	966 wsw	232 SW	242 SW	0622	1802	84	121
9	876 wsw	798 wsw	155 SW	75 WSW	0627	1805	73	96
10	859 wsw	958 wsw	132 WSW	133 WSW	0627	1815	101	110
11	1016 wsw	932 wsw	294 WSW	210 W	0634	1807	90	110
12	853 wsw	762 wsw	131 W	43 WNW	0632	1747	71	105
13	660 wsw	528 wsw	64 ENE	196 ENE	0620	1735	99	125
14	396 wsw	274 wsw	329 ENE	450 ENE	0608	1719	127	130
15	170 wsw	48 wsw	554 ENE	676 ENE	0608	(759)	112	102

PERCENTAGE DISTRIBUTION of SHEARWATER - PETREL Sighted INSIDE AND OUTSIDE STUDY AREA - NOVEMBER AS COMPARED TO wind Speed (660-1500)

INSIDE =

OUTSIDE =

70.0%

60.0%

50.0%

40.0%

30.0%

20.0%

10.0%

0.0%

PERCENTAGE OF SIGHTINGS OUTSIDE/INSIDE

5.0 7.0 10.0 11.0 12.0 13.0 14.0 15.0 16.0 17.0 18.0 19.0 20.0

Avg Wind Speed (660-1500)

BEE 20x20 TO INCH

BEE 20x20 TO INCH

November

Avg Temp After Sunrise

Inside vs Outside

52°

51°

77°

78°

Avg Temp

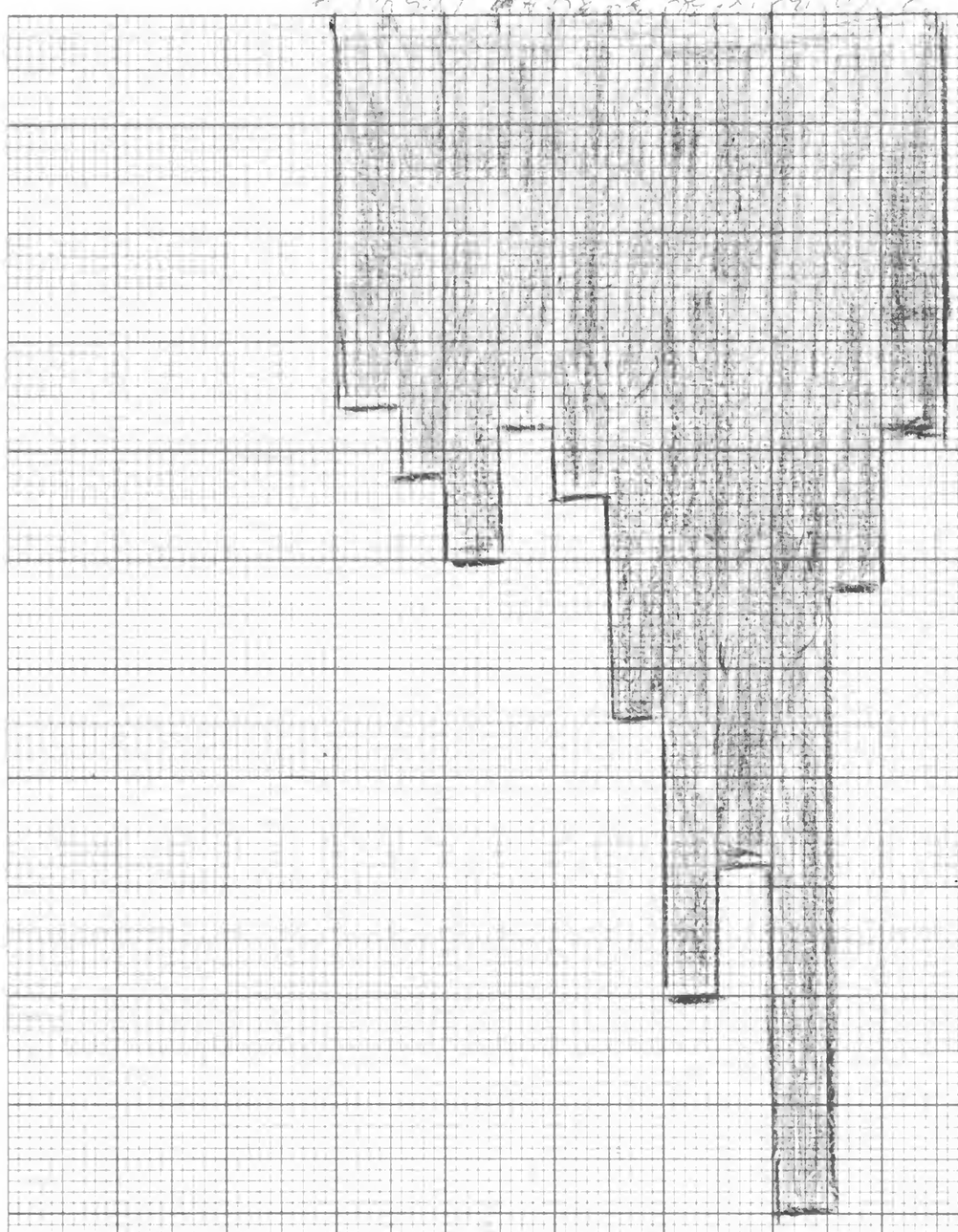
0 60 120 180 240 300 360 420 480 540 600 660

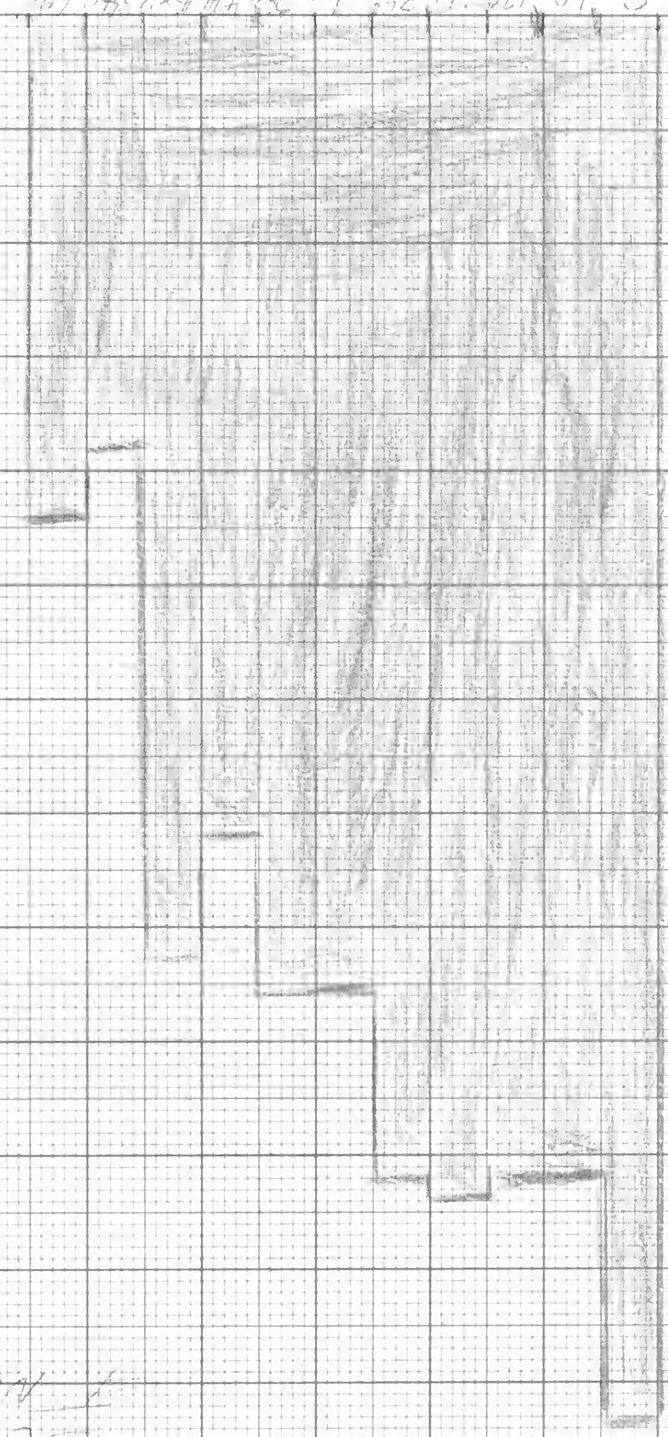
Min After Sunrise

Inside

Outside

BEE 20x20 TO INCH





DATE: Nov. 1 Total Minutes: 420 Total Miles: 20

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
58	390	6.72	5.57

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
43	15	7	0	370	20	9	—	8.60	1.33	1.29	—	5.29	.29	.13	—

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
0	0	0	0	0	0	—	—	—	—	—	—

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	2	1.00	.03

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1	.014

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
3	0	0	2	3	0	0	2	1.00	—	—	1.00	.042	—	.028	—

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	3	1.5	.042

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
2	310		1	10	

DATE: Nov. 2 Total Minutes: ~~723~~ 939 Total Miles: ~~107~~ 97

I. Total Abundance of birds:

1-3

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
142	1670	11.76	17.22

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
128	15	76	0	1641	21	85	0	12.82	1.40	1.12	—	16.92	.22	.88	—

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
3	1	1	3	1	1	1.0	1.0	1.0	.030	.01	.01

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
4	6	1.50	.04

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1	.01

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
2	0	1	0	2	0	1	0	1.00	—	1.00	—	.02	—	.01	—

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1	.01

VIII. Abundance of Flocks:

Total No. Flocks	Totsl No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
18	1514		1	30	

DATE: Nov. 3 Total Minutes: 692 Total Miles: 85

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
86	165	1.92	1.94

3-5

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
78	7	63	0	147	8	163	0	1.88	1.14	1.63	—	1.73	.09	1.21	—

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
2	2	0	2	2	0	1.0	1.0	—	.023	.023	—

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	9	4.50	0.78

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0								

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	—	—

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
5	57		1	15	

DATE: Nov 4 Total Minutes: 693 Total Miles: 53

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
34	109	3,21	1,31

5-5
5-7

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
25	2	20	0	65	7	49	0	2.60	3,50	2,45	—	.78	.08	.59	—

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
2	0	1	2	0	1	1.0	—	1.0	.024	—	.018

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	26	13.0	2.24

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
3	5	1.66	.060

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
3	0	0	0	3	0	0	0	3.00	—	—	—	.036	—	—	—

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	4	2	.05

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
1	71		1	71	

DATE: Nov 5 Total Minutes: 695 Total Miles: 102

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
28	328	11.7	3.21

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
19	0	15	0	49	0	43	0	2.6	—	2.86	—	.48	-	.42	—

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
0	0	0	0	0	0						

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
2	0	1	1	2	0	1	1	1.00	—	1.00	1.00	.019	—	.009	.009

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1	.009

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
2	302		1	102	

DATE: Jan 6 Total Minutes: 6 39 Total Miles: 98

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
39	88	2.26	0.90

5-2
7-10

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
34	0	25	6	79	0	40	0	2.32	—	1.60	—	.81	—	.41	—

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
0	0	0	0	0	0						

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	.01

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1	.01

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
2	2	1	0	3	3	1	0	1.00	1.5	1.00	—	.03	.03	.01	—

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1	~~.04~~ .01

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
3	44		0	0	

DATE: Nov. 7 Total Minutes: 693 Total Miles: 137

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
31	60	1,94	0,44

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
19	1	13	0	38	1	29	0	2.0	1.0	2.23	—	.28	.01	.21	—

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
6	5	1	6	5	1	1.0	1.0	1.0	.04 ~~.44~~	.04	.04

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
3	11	3.67	.08

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
1	0	0	0	1	0	0	0	1.0	—	—	—	—	—	—	—

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1	.009

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
2	28		1	23	

DATE: Nov. 8 Total Minutes: 700 Total Miles: 84

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
37	100	2.70	1.19

2-5

7-10

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
26	1	22	0	44	2	36	0	1.69	2.0	1.64	—	.52	.02	.43	—

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
6	4	1	6	4	1	1.0	1.0	1.0	.07	.05	.01

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	45	22.5	0.54

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0	—							

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	—	—

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
2	62		1	21	

DATE: Nov. 9 Total Minutes: 698 Total Miles: 73

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
84	350	4.17	4.79

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
67	1	~~51~~ 47	0	297	1	~~51~~ 49	0	4.43	1.00	1.06	—	4.07	.01	.74	—

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
4	3	0	5	4	0	1.25	1.33	—	.07	.05	—

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
6	8	1.33	.109

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0								

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	—	—

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
9	257		0	0	

DATE: Nov. 10 Total Minutes: 224 Total Miles: 101

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
102	623	6.11	6.17

5-2
7-10

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
77	5	44	0	574	27	79	0	7.45	5.40	1.80	—	5.68	.27	.78	—

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
~~1,26~~ 7	7	0	15	15	0	2.14	2.14	—	.15	.15	—

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	10	5.0	.10

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
13	20	1.53	.198

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
0	0	0	0	0	0	0	0								

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1	.009

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
21	517		0	0	—

DATE: Mar. 11 Total Minutes: 673 Total Miles: 90

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
83	331	3.99	3.68

2-3

II. Abundance of the Shearwater-Petrel-Albatross Group:

7-10

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
66	3	25	0	305	3	32	0	4.62	1.00	1.28	—	3.40	.03	.36	—

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
7	6	1	7	6	1	1.0	1.0	1.0	.08	.07	.01

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
3	3	1	.033

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
3	3	0	0	3	3	0	0	1.00	1.00	—	—	.03	.03	—	—

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	—	—

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
23	252		0	0	

DATE: Nov 12 Total Minutes: 675 Total Miles: 71

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
56	128	2.30	1.80

5-2
9-10

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
43	0	35 (34)	0	~~113~~ 123	0	~~48~~ 47	0	2.62	—	1.36	—	1.60	—	.676	—

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
2	2	0	2	2	0	1.0	1.0	—	~~.03~~ .03	.03	—

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	2	1.0	.03

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
5	5	1	.070

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
2	0	2	0	3	0	~~5~~ 3	0	1.50	—	1.5	—	.042	—	.042	—

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	—	—

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
6	75		0	0	—

DATE: Nov 13 Total Minutes: 675 Total Miles: 79

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
82	136	1.66	1.37

5-5
5-7

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
76	10	65	0	127	13	110	0	1.67	1.20	1.77	—	1.28	.12	1.11	—

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
1	1	0	3	2	0	3.0	2.0	—	.03	.02	—

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	2	1	.02

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
2	1	1	0	2	1	1	0	1.00	1.0	1.0	—	.02	.01	.01	—

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1	.01

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
5	44		1	19	

DATE: Nov 14 Total Minutes: 671 Total Miles: 127

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
39	44	1.13	0.35

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
33	1	31	0	38	1	35	0	1.15	1.00	1.13	—	.30	.01	.28	—

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
2	1	1	2	1	1	1.0	1.0	1.0	.015	.01	.01

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	.01

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
1	0	1	0	1	0	1	0	1.0	—	1.0	—	.01	—	.01	—

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1	.009

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
1	5		0	0	—

DATE: Nov 14 Total Minutes: 671 Total Miles: 127

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
39	44	1.13	0.35

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
33	1	31	0	38	1	35	0	1.15	1.00	1.13	—	.30	.01	.28	—

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
2	1	1	2	1	1	1.0	1.0	1.0	.015	.01	.01

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	.01

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
1	0	1	0	1	0	1	0	1.0	—	1.0	—	.01	—	.01	—

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1	.009

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/Mi.
1	5		0	0	—